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ORIGINAL ARTICLES

PRESENT STATUS OF THE TREATMENT OF MALIGNANT DISEASE BY THE X RAY.

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The term malignant disease includes a variety of manifestations. It is used to indicate the formless proliferation of cells which occur when the textural balance of tissues are upset and are undergoing a retrograde metamorphosis, when the cells grow wild and obey no laws. These cells are more lowly organized than normal tissues and have less resisting powers to certain agents, such as the x ray than normal tissues.

It is the consenses of opinion among investigators that age tends to unbalance the harmonious relationship that exists among certain cells which compose the animal organism and that carcinoma especially and sarcoma increase in proportion as age advances, but some of our text books would lead us to believe that we could nearly exclude carcinoma in persons under 35 years. However, this is not the case as we often find that epithelioma and carcinoma in persons from 15 to 35 years as verified by microscopical examination. Sarcoma we may find from infancy up. It is highly probable that the retrogressive glandular metamorphosis which occurs as age advances are conductive of the genesis of malignant disease.

We find malignant disease more prevelant among races which habitually eat cold storage cooked foods. The Esquimaux who consume raw meat, and vegetarians who are generally inhabitants of tropical countries, also Japanese who are nearly vegetarians, are singularly free from malignant disease.

I think that the influence of diet and especially the use of meat which has been killed for some time, allowed to ripen and obtain good flavor by being placed in cold storage, should be investigated.

As yet, very few facts as to the causitive influence of cancer have been proven; as an example, traumatism or irritation is given as one

of the most common causes. I will refer to my case record as to the probable cause of a few cases. In one case of a rapidly growing epithelioma on the nose, the patient gives a history of being out hunting and running a hedge thorn in the side of the nose. The wound did not heal, but became indurated around the edge and gradually enlarged. The local physician cauterized it in an effort to destroy the excessive paliferation of cells, but it took on a more rapid growth than ever and the patient came to me with an enlargement one and half inches long, three quarters of an inch broad and a half inch high. I referred the case to Dr. Frank Hall for microscopical examination and he pronounced it a rapidly growing epithelioma. Now a thousand or two thousand persons may be pierced by a hedge thorn and not produce an epithelioma, but it evidently was the irritating cause in this case.

Another man was hoisting hay into a loft, by means of a rope and pulley, when he lost control of the rope, it slipped and rubbed his cheek. The fibre of the rope cutting through the skin on the cheek. This place did not heal and so an epithelioma started. What caused it? Irritation or the rope!

In nearly all sarcomas and carcinomas of the breast, if the patient's memory is stimulated a little, you can obtain a history of a bruise, sometimes months before, but more often only a day or two.

From examining a large number of these cases and getting their histories, although a former bruise may have been a predisposing cause, I think a bruise may have irritated a preexisting growth and called their attention to it when they would discover a lump in the breast which was tender, and they would then consult their family physician, telling him they had bruised their breast and that it was quite sore. He would find an enlargement in the breast with glandular enlargement under the arm. This growth would be so large it could not have formed and caused a glandular involvement of the axilla since the time of the injury. I believe in many of these cases, the growth has been present for months, without the patient's knowledge and the traumatism merely caused them to consult their family physician, who diagnosed the condition and gave the cause as traumatism.

It is claimed that all neoplasms originate from a matrix of embryonic cells of congenital origin and when free from control exercised over them by a complex organism or stimulated by some irritation or traumatism, they act as a free agent and maintain their species by indefinite multiplication. If this is the cause it is comparatively easy to explain the action of the x ray on these growths.

The x ray will destroy any tissue if applied to it in sufficient quantities, but it has a selective action in that the more highly organized the tissues the more resisting power to the x ray.

The x ray in small doses is a stimulant. If it is applied just beyond this point it will destroy tissue, but not more rapidly than will be replaced by nature. This is illustrated by applying just enough to normal tissues to produce destruction, but not more rapidly than repair takes place. The skin will be destroyed in an average of about ten days and will peel off, but new skin will be formed before the old skin comes away, and will not leave a raw surface, but a delicate new skin. The deeper tissues will be destroyed but not come away in a mass, as the skin did, but be absorbed and new tissues take their place as they are absorbed. However, if we apply a larger dose, new tissue will not take the place of that destroyed as rapidly as it is destroyed and we obtain what is commonly called an x ray burn, which is a necrosis of the tissue due to an excessive application of the ray.

This condition is very slow for repair and should never be produced in healthy parts. I am firmly convinced that the x ray has an inhibiting effect on all growths to which the proper dose is given, and is indicated in those cases it will reach in sufficient dose without breaking down the superficial tissues; as in case of a fire in a building, the proper thing to do is to call out the fire department and throw all the water possible on the fire. In some fires the whole building will burn, in others, part may be saved; invariably it will be put out before great damage may be done, but some buildings will be entirely destroyed in spite of the efforts of the fire department. Is that a reason why the fire department should not be called out and make every effort to save the building?

It has been proven beyond a question that malignant tissue has less vitality to the x ray than healthy tissues because they are more highly organized.

In the treatment of malignant growth it then becomes a question whether we can get sufficient ray on all the growth to inhibit or destroy it more rapidly than it will repair; if a part of the growth is situated under a bone the chances are that the ray will only stimulate and make that part grow more rapidly.

In cases of malignant growths of the uterus, unless limited to the cervix, in which case we can reach them through a speculum, is it any wonder that the x ray treatment only hastens the growth. The same applies to malignant diseases of the stomach, intestines, etc. If we have a growth on the face which is generally of the epithelioma type, we can apply it to the whole growth and I believe 95 per cent. of these which are not more than a half inch in diameter can be permanently destroyed by the x ray.

Statistics show that the cosmetic effect of the x ray treatment of a growth on the face is much better than that of any other method. Consequently I believe there is no comparison between the efficiency of treatment of a growth of the face by the x ray than all other methods.

In carcinoma of the breast, in which there is no secondary involvement of the internal organs; if there is secondary involvement, of course, the patient is doomed, irrespective of the method that is employed. In case of apparent involvement of the breast alone we go on the principle that the axillary glands are also involved. If an operation is performed the breast and axillary glands are removed; if it does not return the patient will have a limited motion of the arm and go through life minus a breast. If the case is successfully treated by the x ray, as it will be in the majority of cases if the ray is applied properly, the woman will end her existence with much more peace of mind than if she had to wear pads and could not raise her arm above the shoulder. When a case is operated on surgically and the growth is proven to be malignant by microscopical examination, I think the case should be given x ray treatment for a period of about two months.

It is much easier to destroy any remaining cells at this early period than it is after they have grown sufficiently to be made out by palpatation. We have a great advantage here in that there is not much tissue to go through until the ray comes in contact with the malignant cells.

The x ray can not be applied to large areas of the body in large doses without producing such a rapid tissue change that the eliminating organs cannot carry off the waste products as fast as liberated, and we will have a rise of temperature, an autointoxication and great depression, but an application to a reasonably large area is safe.

In all x ray applications it should be applied only to parts known to be involved by the growth and a reasonable amount outside of this. The remaining portion of the body should be protected by suitable covering which will prevent the penetration of the x ray.

The x ray has one advantage over the removal by the knife, that is that it can be applied to nerve, artery, etc., when removal by the knife would not be indicated.

In cases of malignant disease which are hopeless, if an opiate is given, what does it do? It will relieve the pain for a short time only and at the same time stop all the eliminating organs; this is always contraindicated. The x ray will often relieve the pain without this.

DISCUSSION.

Dr. McGill, of St. Joseph: I have used the x-ray in the treatment of carcinoma for the last few years, and in all cases of epithelioma I have had good results; but if in any case of carcinoma I have been able to benefit the patient, I have never found it out.

Now, in regard to malignant conditions, it is a deplorable fact that the number of people dying from malignant growths has increased from year to year. The statistics, as we had them in 1840, showed that one person in 129 died from some form of malignant disease—of cancer; in 1900 one person out of every 23 died of some malignant condition. This shows conclusively that we have not found a cure for cancer yet, that with all our treatment we are at least deficient, and it yet remains for someone to discover something

that is better than anything we have found in the past. As far as the x-ray is concerned, in treating superficial epithelioma it cannot be beaten, in my estimation, but as far as sarcomas and carcinomas are concerned, I have had no success with the ray. I will give one case: A man, 64 years of age, with epithelioma under the eye. There had been a wart there for quite a number of years, which began to grow, showing an inflammatory condition. I gave it a 15 minutes exposure with the tube 12 inches from the growth, and if I remember rightly, I gave this man some eight exposures, and got quite a little burn—what is called an x-ray burn—and stopped. Later on, I gave him two more exposures in the course of a couple of weeks, and the growth disappeared. The number of treatments varies with the case in hand.

Dr. W. L. McBride, of Kansas City. I listened to a discussion on the treatment of malignant growths, in Chicago, at the Dematological Association, "Has the X-Ray been Efficient?" The conclusion was that its action is nil in all cases of carcinoma, excepting cutaneous epithelioma, and that most all cases of epithelioma of the lower lip should be given over to the surgeon. The latest findings show that there is some difference between cutaneous carcinoma and internal carcinoma. The x-ray may be able to cope with the cutaneous carcinoma, but not with the internal carcinoma. The ray does not penetrate the deeper tissues with any effect. If a case of internal malignant growth comes to an x-ray man, he should turn it over to the surgeon. If the surgeon says it is inoperable, he may return it to the x-ray man, for the analgesic effect of the ray; but it has no permanent effect. It is not advisable for the x-ray man to treat carcinoma of the breast. You hear often that the ray produces metastasis. That I do not believe; but I do believe that if the x-ray man uses the ray on a nodule in supposed carcinoma, he simply defers what the surgeon must eventually do. I have seen in Chicago splendid results following breast amputations for carcinoma and then the use of the ray. Whether it was from the operation or from the ray, I do not know, but I give the surgeon the benefit of the doubt. So I say that the ray is efficient in all superficial epitheliomas involving any portion of the skin excepting the lower lip. Those cases belong to the surgeon to be removed, and then the ray can be applied.

Dr. Pearse, of Kansas City: I never saw but one case of lenticular carcinoma. A most estimable woman came to me with carcinoma of the breast. It was removed, and some involvement was found in the axilla. The case was x-rayed for two months. The patient passed 18 months of health. Suddenly, in the neighborhood of the scar, a rash appeared, and in 24 hours the nodules were as large as small garden peas, 15 or 20 of them, hard and round. I did not suppose it had anything to do with malignancy, but it did not get better, and after two weeks I had two of the dermatologists of Kansas City see it, and they pronounced it lenticular carcinoma. The woman went to the hospital, and all the infected portion of the skin was removed,—about three or four square inches, and new skin grafted. Within three weeks the skin-grafts had healed, and the skin of the breast was closing over, when to my chagrin another patch as large as the palm of my hand appeared under the collar-bone. The lady at once submitted to the removal of this patch, after having again consulted one of the dermatologists of Kansas City and a surgeon of St. Louis. The wound was again skin-grafted, and the skin-grafts again healed. With the last attack, she had a violent attack of erysipelas of the leg, just as she was leaving the hospital. A week ago she got over this attack of erysipelas, when to my consternation I found a patch half as large as the palm of my hand, near the breast,—again a lenticular carcinoma. That

patch occurs in every case in twenty-four hours' time. We are accustomed to expect carcinoma to be a slow process. In the three attacks of carcinoma mentioned above, the attack appeared in a period covered by forty-eight hours, and did not recede or change thereafter, except that each nodule slowly enlarged and became hard and darker in color. This case I was preparing to submit to x-ray treatment on my return from this Association, and I was surprised to hear Dr. McBride say that there was no use in treating by the x-ray carcinoma below the lower lip.

Dr. C. H. Suddarth, of Smithville: My experience with the x-ray has been rather limited, but I have treated five cases of epithelioma with the x-ray in the last eighteen months, one in the corner of the eye, one below the eye, another one on top of the nose, and two on the ala of the nose. The one that gave me the most trouble was the one in the corner of the eye. I discharged the man, and told him that he was well, but that I would like to watch his case, and about four or five months afterwards it returned. There was a little pimple that came back, and I gave him a few more treatments, and the small nodule came out. I want to say that I believe, from the limited experience that I have had with the x-ray, that we quit treating these cases too early. A man should keep his cases under observation, and treat them at longer intervals, with a softer tube, and with the tube at a greater distance from the seat of trouble than he would in the active stage. That has been my experience, that by doing so you get better results, and more permanent results. If you get your light too close you simply get a healing over, and you do not reach the deeper structure.

Dr. Scott, in closing: The first consideration of any case for the treatment of the x-ray is, can you get sufficient rays to that part to affect it? If you cannot, then of course there is no use in making the attempt. But in those cases in which you can, you may have good results. For example, in carcinoma of the breast I have had some good results, and some of the cases I know were malignant; some of them may not have been, and some may. It is often a hard matter in the early stages to tell whether they are absolutely malignant. Eighty per cent. of all growths in the breast are malignant. One reason we did not get good results years ago was because patients were not willing to submit to the ray at an early stage, and those treated were nearly all cases which were beyond hope by any means whatever. In the last few years, we have been learning how to better apply the ray. We know now what effect it will produce. We know something of the effect of the ray in its different doses. We cannot, of course, say, in applying the ray to different cases, that a certain case will take a certain dose, but we have to experiment with each and every case, and find the dose suitable for each one. This may take three or four days, or three or four weeks. Some people will take a large dose, while others will take only a small dose. It is important to give the correct therapeutic dose.

RESPONSE TO ADDRESS OF WELCOME.

BY W. B. OUTTEN, M. D., ST. LOUIS.

It has been seen fit by the executive committee of the Missouri State Medical Association, to celebrate in an appropriate manner the semi-centennial meeting of the State Medical Association. The growth of the Missouri State Medical Association has been erratic and varied; it was not endowed from the beginning, and its consequent course with unruffled and uneventful progress, like that which existed in many of her sister states. Its course and progress became erratic through a series of potent and tragic events beyond the power of man, community, or nation to forestall. In 1837 the physicians of St. Louis obtained a charter from the legislature under the name of the Medical Society of the State of Missouri. The provisions of which were sufficiently broad to embrace in its membership the entire profession of the state, but unfortunately for the advancement of medeine in Missouri it remained local in its membership and influence. From 1837 to 1849 the medical profession of the State of Missouri remained without an efficient and permanent union, it possessing no organization looking to its future improvement and protection. The members of the medical profession of Missouri attended a meeting of the American Medical Association at Cincinnati in 1849, and learned to their chagrin and humiliation that Associations embracing the medical profession in the various other states were in operation, while Missouri and Arkansas alone were unorganized. This condition of affairs, its progressive members felt that it was a mistake for the state to permit it to remain in that condition. Accordingly a committee of Dr. Wm. M. McPheeters, Dr. John B. Johnson, Dr. S. Gratz Moses, Dr. Geo. Engelmann and Dr. Geo. Pim, issued a well-worded series of resolutions to the medical profession of Missouri.*

It will not be inappropriate at this time to quote these resolutions, since they indicate how broadly and clearly they deemed the duty demanded of the medical profession of the State of Missouri.

The following circular was issued in 1849:

"Whereas, In the opinion of the Society, (this I presume refers to the Medical Society of the State of Missouri) the time has arrived when it is both expedient and desirable to unite the medical profession of the State of Missouri for the purpose of mutual improvement and protection. Be it

Therefore, Resolved: That a committee be appointed to address the regular members of the medical profession throughout the state inviting them to meet in general convention in the City of St. Louis,

*Read at the Fiftieth Annual Meeting of the Missouri State Medical Association, Jefferson City, May, 1907.

on Monday, the fourth day of November, next, for the purpose of forming a State Medical Association, with auxiliary societies in each county of the State. The undersigned committee appointed to carry out this resolution, presuming that the objects for holding the proposed convention must be apparent to every one, take this method of addressing you on this subject and soliciting your co-operation. The medical profession of Missouri has been for too long a time indifferent to the many and great advantages to be derived from an efficient State organization, and whilst in other sections of our country under the influence of such societies the happiest results have been obtained towards elevating the standard of the medical profession by the united and cordial actions of all its members, we, on the contrary, have been content to stand still and have consequently accomplished but little in the important work of medical reform, notwithstanding we live in an age and in the midst of a community in which the inevitable law of progress is stamped on every one around.

The Committee have, therefore, caused this circular letter to be addressed to the profession throughout the State, calling upon them to hold town, county, or district meetings and to appoint delegates to the proposed convention, and when no such meeting can be held we hope that you will consider yourself a delegate to the same and will use your exertions to extend the invitation to those whom they may not be able to reach, and in otherwise promoting the desirable and contemplated and foregoing preamble and resolution.

The Committee have not thought proper to limit the number of delegates each town, county or district may appoint, but have extended the invitation to every regular practitioner of medicine in Missouri and they hope by these meetings to insure a full representation from all parts of the State."

The first meeting was held in St. Louis in November, 1849. Dr. W. G. Thomas, of Boonville, was chosen president, and Dr. G. B. Alleyne of St. Louis, secretary. Boonville was chosen as the place of the next meeting and the date set for April 21st, 1850. At this meeting Dr. Thomas delivered an address setting forth, with force and ability, the purpose for which the Society was formed and the means necessary to affect the same. The address was listened to by a large audience, composed of citizens, as well as members of the Association. Dr. Wm. McPheeters, who had been a prime mover in the organization of the Association, was elected president. At this meeting a report was made by Dr. D. M. Davidson, of Cole Co., on the Status of Obstetric knowledge and Diseases of Women and Children, and on Surgery by Dr. Jos. Nash McDowell, of St. Louis. Dr. M. L. Linton read a report on Medicine and Dr. John Lawton, on Medical Education.

The Missouri State Medical Association was accordingly organized in 1850, in April, and held meetings annually until 1859 to 1867.

This hiatus of eight long and important years arose from the fact that these years marked the beginning and culmination of our late Civil War. Had the influences of this war ceased with these eight suspended years the Missouri State Medical Association might have had a passing good chance to advance in a normal and proportionate way,but these eight suspended years shamefully marked the time when law and order ceased to exist and when it became again a stable acting power. Missouri being a border state, held a helpless and harrassing position. Outside of her limits her friends in the North might have loved her for her loyalty but it was a weak soul's desire; her friends of the South might have loved her for her past, but her present offered nothing but what utter indifference gave. Missouri was emerging from the impoverishment of war, and that unsettled condition of society which was seamed and marked by thoughts, actions and remembrances, which leave tender spots and scars. These eight years were years when peace, the first of all human blessings, had left the land, and when men's souls became living fire, amidst the booming of guns and revenge a supreme virtue. Harsh and sad as were the influences of the war, still more depressing and nagging were the baneful mental effects upon her citizens. The uncertainties of life, the ill requiting of labor and effort, the meagre rewards of enterprise, the reception by outsiders of any damning and ulterior assertion against the state, kept Missouri in that condition when its citizens became overcautious and pessimistically conservative. Each step they made was considered too long, chance and adventure ignored, business lagged, and energy frequently died in the throes of too much consideration. This is not to be wondered at since the majority of her citizens had lived in Missouri in the young days of her great prosperity, when the state grew in wild and lusty vigor. They had seen a time when hope and fruition filled the minds of all of its citizens, when the commerce of Missouri strenuously and unremittingly extended north, south, east and west.

But all of this was changed, for now the citizens of Missouri saw only too plainly the extent of their injury and the newly-made forces arrayed against Missouri's rapid progress as it was in former years. It appeared to the impatient lover of Missouri that every element of growth and preferment went to the States north, east and west. Hosts and troops of hardy, vigorous and competent men filled these states. Industrial organizations seemingly vied with each other in proclaiming these states' exalted virtues and the upbuilding of their productive domain. To him, this impatient lover of Missouri, it seemed manifest that capital, manufactories and industrial organization had leagued together to the undoing of his own state, and the upbuilding of the others. Certain it is that for a long time the maleffects of alien assertion had such power as to make immigrants pass through and ignore a more productive and better territory for an in-

ferior one. A state's reputation unfortunately is not always in its own keeping, since it often lies at the beck and call of designing men, for true it is, that in these days of newspaperdom even states may be so advertised as to be esteemed either for the merit they have not yet obtained or for that they no longer possess. The discontented capable and honest citizens of a state are among the surest and best way to reach progress and advancement, for now it has become apparent that our state has been superior to her misfortunes and assumes her rightful position in the onward march of progress; but much has to be done for the advancement of sciences, literature and the liberal pursuits. Full well do we know that their progress and development does not depend upon an abundance of the state's revenues, nor does it depend upon the stateliness and grandeur of its public and private buildings, and much less does it depend upon the number of its self-aggrandizing millionaires, since the advancement of science, literature and the liberal pursuits must ever depend upon the number and capacity of its cultivated citizens. In proportion to the extent of their education, enlightenment and worthy character, comes the compelling merit of their achievement. Genius, talent, and worthful character have no confining barriers in this country. Throughout the length and breadth of this great land there has ever been the man for the occasion. Yes, a man thoroughly gifted with the instinct of enterprise possessing free and harmonious play of exalted function and seemingly superior to surroundings and circumstances.

But, gentlemen, the past was much, but the present is more. Doubt it not, the present is man's acme of life, that glowing, stinging part of life, the real creator of action and effect. If we are true to our present, our future success is reasonably sure, since the present indeed makes man a potent fact, a rare determining force of the world. Notwithstanding the set-backs and buffets which medical state organizations have received in the past, we have indeed much which we can be justly proud of. Let me quote from Brougham, for old though this assertion may be, it yet fittingly hits the situation at the present time. Thus he says: "There have been periods when the country heard with dismay that the soldier was abroad. That is not the case now. Let the soldier be abroad. In the present age he can do nothing. There is another person abroad—a less important person in the eyes of some—an insignificant person whose labors have tended to produce this state of things. The schoolmaster is abroad and I trust more to him, armed with his primer than I do to the soldier in full military array, for upholding and extending the liberties of this country."

On every side of us education unfolds itself and reflects its comprehensive power in advancing science, art and literature. The scientific accomplishment of the members of the medical profession of the state, when you consider the potent and compelling hindrances to

advancement, is one that any state should be proud of. It will not be out of place to mention the most prominent and important works done by its various members in the past:

Dr. Geo. Engelman, of St. Louis, the father of Dr. Geo. Engelman, Junior, gained a world-wide fame as a botanist, and his records of meteorological observations kept by himself for over fifty years, are quoted by scientific authorities in Europe and in America. The scientific labors of Dr. Adolf Wislizenus in botany and meteorology were largely quoted and used in all civilized countries. His report on the flora and fauna of Mexico was received with favor by the United States Senate. Dr. Adam Hammer wrote a commendable brochure on the diagnosis of occlusion of the coronary artery; two cases were reported both of which were verified by postmortem. His labors in plastic and operative surgery were received with notice and favor by the scientific world. Dr. Benj. Schumard was known to the scientific world at large in consequence of his reliable and extensive report upon geology and paleontology; his work was highly commended by such authorities as Sir Chas. Lyle of England, and Edward DeVerneil, of France. The contribution of Dr. John W. Waters, of St. Louis, to the Conservation and Correlation of Forces, especially their relation to physiology, commanded almost universal, scientific notice. His work received a special notice from Carpenter, the great English physiologist.

Permit me to give the following list of books written by Missouri doctors:

The Theory and Treatment of Fevers, by Dr. John Sappington, Cole Co., Mo.; A Practical Treatise on Diseases of the Eye, by G. B. Carter, M. D., edited with additions and test types, by John Green, M. D., published in 1875. Outlines of General Pathology, by M. L. Linton, M. D., St. Louis. Lectures on Diseases of the Nervous System, by J. K. Bauduy, St. Louis, published in 1874. Anomalies and Diseases of the Eye, by Flavel B. Tiffany, A. M., M. D., Kansas City, Mo. Reports on Yellow Fever, by W. Hutson Ford, M. D., St. Louis, 1879. Prolapse of the Umbilical Cord, its Causation and Treatment, by Dr. Geo. Engelman, of St. Louis, 1874. The Nurse and Mother, by Wm. Coles, M. D., St. Louis, 1882. Lectures on Orthopedic Surgery, by Dr. L. Bauer, St. Louis. Diseases of the Ear, by A. D. Williams, M. D., St. Louis. Ophthalmology for the General Practitioner, by Adof Alt, St. Louis. Chemistry, a Text Book, by Dr. Chas. Curtman, St. Louis. A Text Book on Dermatology, by W. H. Hardaway, M. D., of St. Louis. A Work on Nervous Diseases, by Chas. H. Hughes, M. D. A Text Book on Diseases of the Skin, and several chapters in the Medical Text Book of Genito-Urinary Diseases, and Syphilology and Dermatology, by Dr. Joseph Grindon, St. Louis. Lessons on the Eye, a text book for Under-graduates, by Dr. Frank H. Henderson, St. Louis. Fractures and Dislocations in Hernia, chapters of which were

published in various encyclopedias, by H. H. Mudd, M. D., St. Louis. Ophthalmology for the General Practitioner, James Moores Ball, St. Louis. A highly commendable and most excellent wrok which has been commended by all surgical authorities entitled, A Manual of Operative Surgery, by J. F. Binnie, of Kansas City. Edw. W. Schauffler, of Kansas City, was one of the translaters of Ziemssen's Encyclopedia of Medicine; he also contributed a number of articles to Wood's Reference Hand Book of Medical Sciences. Text Book on Genito-Urinary Surgery and Venereal Diseases, by Dr. G. M. Phillips of St. Louis, and Prostatic Hypertrophy from every Surgical Standpoint, by the same author. Diagnosis and Treatment of Diseases of the Rectum and Anus, by S. T. Gant, M. D., Kansas City.

In the field of surgery Missouri has given a number of names which stand high in operative work and who gained more than a national reputation: Dr. Joseph Nash McDowell, the founder of the first medical college of Missouri. Dr. Chas. A. Pope, a surgeon of rare ability, whose influence upon the medical student of the state was lasting and beneficial. Dr. John T. Hodgen, the inventor of Hodgen splint, made for himself an international reputation. Dr. E. H. Gregory of St. Louis whose high reputation grand, moral and useful character made him eminent. In the way of scientific work, brilliant, and daring surgery, the record of Missouri stands well to the front, and it is with especial pleasure that I am able to place for your notice the successful labors of our modern surgery. Dr. J. B. Jackson, of Kansas City, revised the technique of breast amputation and so beautiful and effective was the device, that now it is generally used. Dr. Henry H. Mudd devised the original intestinal anastomosis, quoted largely in Europe. Dr. H. C. Dalton, of St. Louis, was one of the very first surgeons to suture a heart wound. Dr. Campbell, of St. Joseph, did a lot of original work in the suturing of arteries, which must be placed upon the plane of high scientific attainment. Dr. H. L. Neitert, of St. Louis, was the second person to have made a successful heart suture. Dr. H. Tuholske, of St. Louis, performed the first successful operation for gastro-enterostomy and pylorectomy for carcinoma of the stomach, on March 29, 1890, published in the *Medical News* of May 10, 1890. Dr. John Young Brown's work and results in septic peritonitis stand among the best and finest results accomplished in surgery. Dr. Vilray P. Blair devised a new form of nephropexy, a most successful procedure. Dr. Eugene C. Gehrung, devised a pessary which is largely used throughout the world. Dr. Francis Reder, of St. Louis, was the first to use air bags in intestinal anastomosis. Dr. John Bryson devised a new operation for prostatectomy, which has been successfully used. Dr. A. V. L. Brokaw devised segmented rubber rings in the use of intestinal anastomosis. Dr. John Engelman, Jr., devised obstetrical forceps which are of positive merit. Dr. M. G. Seelig, of St. Louis, has devised a new form

of anesthesia, which has given successful results and promises well for the future. Dr. W. S. Deutsch devised an anesthesia outfit, which is largely used in Europe. Dr. Willard Bartlett devised a new animal suture which is generally adopted by the best surgeons of the country. Dr. Walter B. Dorsett inaugurated the utilization of round and broad ligaments in supra-vaginal hysterectomy. Dr. Schiefferstein, of St. Louis, the first investigator who discovered the gonococcus. Dr. Peter Potter, the exact reconstruction of the organs from sections of formalin hardened material. Dr. H. W. Loeb, Studies of the Accessory Sinuses of the Nose, a very exhaustive and scientific paper. Dr. N. B. Carson was the first to describe the cracked-pot sign in hydrocephalus, so-called McEwen's sign. A series of experiments upon cadavers with Krag-Joergensen rifles of the U. S. Army, and Lee rifles of the Navy from one to two thousand yards, showing the destructibility of the bullet on loose earth, by Dr. J. D. Griffith, of Kansas City. In 1877 he was the first to perform in St. Louis the operation of resection of a rib for the treatment of an empyema—an operation now one of the recognized procedures. In 1883 at the meeting of this Association, which was held in Mexico, Missouri, he reported the first case of gastrostomy as a palliative measure in cases of malignant stenosis of the oesophagus, and in 1889 he popularized the operation of wiring of the patella for fracture produced by indirect violence, and reported a series of cases and the results obtained to the National Association of Railway Surgeons.

It certainly seems to the writer that the progress of the profession in Missouri, when you consider the difficulties under which it has labored, has been active and efficient, and accomplished work of which any state may be proud.

Finally, let me speak regarding the present position of the State Medical Association. In 1903 a new constitution and by-laws were adopted. The work done for 1902 has been wonderfully effective. The work of organizing the county medical society has been prosecuted with such success and vigor that with the adoption of the new constitution in 1903 the membership increased from 150 to 2,400, with nearly fifty counties in affiliation.

Having these facts before us we certainly can make the assertion that most of these organizations in the Union cannot show any more effective officers. They are persons who do not know how to waste time, but whose shiboleth is "onward"; and should this work continue as it has done in the past, Missouri is destined to see as broadly efficient and as completely successful a state organization as exists in any realm, state or union.

AUTOINTOXICATION.*

BY JAMES HANKS, M. D., BRASHEAR, MO.

Autointoxication is a condition of the blood producing a variety of morbid phenomena, caused by the absorption or re-absorption of poisonous metabolic products generated within the body: it is a prolific cause of chronic diseases, especially the functional disorders. The toxic derivatives are the etiological factors in many chronic diseases, and are derived from products of the physiological digestive secretions and fluids of normal products of digestion and of abnormal products of bacterial disintegration of normal food.

The toxic character of these derivatives has been demonstrated by the effects produced on the lower animals that were inoculated with them. Bouchard and his pupils performed many interesting experiments in demonstrating the varying degrees of toxicity of the several excretory products. The symptoms varied from a mild restless condition, with exacerbation of the temperature and heart action up to tetanic spasms, resembling those produced in children by intestinal troubles, and death was produced in many cases when the amount injected reached a certain quantity as compared with the weight of the animal. They demonstrated that the toxicity of the urine varied from day to night in the varying conditions of health; also the modifying influence of antiseptics and of the lessened toxicity after filtering through charcoal.

Absorption of toxins from the alimentary tract are the cause of many nervous phenomena and functional and chronic disorders. Experiments have demonstrated that the derivatives from feces are energetically toxic; as shown by Bouchard, the intravenous injection of an extract of feces in a rabbit require but a small amount to produce convulsions and death.

Physicians are familiar with the fact that in patients who have intestinal obstruction, there are shock and a series of symptoms, which neither the congested bowel nor the blocking of the alimentary canal fully explains. The prostration and collapse are profound and can only be explained by the absorption which evidently occurs, producing an autointoxication from the putrefactive alkaloids formed in the mass feces which cannot be eliminated.

In pregnancy are formed toxins and poisons producing the chain of symptoms so often observed by all of us and often ending in eclamptic convulsions. Whether this autotoxemia, as claimed by Lorenz, is due to acetone formed in the intestines, or, as stated by Stumpf and Stolz, to increased destruction of fat in the maternal organism, has not been

*Read at the Fiftieth Annual Meeting of the Missouri State Medical Association, Jefferson City, May, 1907.

definitely determined. We know, however, that the poison, whatever it may be, circulates through mother and fetus and upon the mother is thrown the burden of eliminating by the various excretory organs, as kidney, liver, intestine, skin and lungs, the poisons formed by the metabolic process occurring within two organisms. When elimination is not complete, we have disturbances varying from heightened arterial tension, headache, gastric disturbances, to convulsive seizures of puerperal eclampsia. The urine, when these conditions prevail, usually contains albumin. Errors of diet are, no doubt, a contributory factor in many indispositions due to autotoxemia; usually with a proper dietary and elimination we find symptoms vanish and improvement occurs.

Recently special prominence has been given to acute intestinal autotoxemia. This is often due to improper foods or putrefaction from non-digestion. The digestive juices fail to transform the food: parasitic ferments develop; toxins produced from these fermentations are re-absorbed; from this are produced many of the ills which we daily meet in our work. We see this form of the trouble most frequently in bottle fed babies, where proper care and knowledge are not exercised in the preparation of their food.

There are a number of morbid phenomena arising from chronic intoxications, having their origin in the intestinal canal, especially in the dilated stomach; in fact, a large percentage of chronic ailments are due to this cause alone. This condition exists in many of our patients without being suspected; it usually exists for a long time before the commencement of the disease with which it is associated and often passes unrecognized, except by developing its physical signs, and often the symptoms of which the patient complains are not of such a nature as would lead us to look for this condition. It often exists without causing unusual sensations, dyspeptic or gastralgic symptoms.

We see its manifestations in many skin diseases—eczemas and urticaria are common examples that have doubtless been observed by all of us.

Asthma has in some instances been attributed to toxemia, especially those forms exhibiting periodicity. Dr. Jas. Adam has made numerous observations in regard to the relationship between asthma and excess of uric acid and says that there is produced a convulsive or spasm-producing toxin which explains the paroxysmal attacks of difficult breathing that sometimes occur during the night. Often the cause may be traced back to some improper diet taken the day before. There are many other conditions that may be due to this cause.

Elimination by the various means at our disposal with antiseptics and a proper dietary regimen are the best means of relieving the condition.

DISCUSSION.

Dr. J. M. Allen, Liberty: Acute autointoxication may be found always originating in the upper intestinal tract. The more chronic forms of autointoxication always originate in the larger intestines, particularly associated with displacement of the sigmoid flexure. This displacement is almost always present in constipation and this results in autointoxication, so that there is a wide field for investigation. There is hardly a month that I don't see cases of autointoxication that may be associated with the kidney. Toxins that occur in connection with pregnancy must be watched for very closely. Autointoxication that has its origin in the kidney may be due to almost any disease of the kidney. Faulty metabolism and disease of the kidney mean, to my mind, practically the same thing, so far as treatment is concerned. As to the antiseptics, I want to call attention to the great value of urotropin, and methylene blue compound. We may say that we have no form of autointoxication that is not associated with some form of germ life, and such conditions are usually the result of kidney disease, so that you will get good results from a urinary antiseptic.

Dr. J. R. Buchanan, Nevada: I think that the question of autoinfection, or toxemia, is not entirely covered so far as treatment is concerned, by the eliminative process. One of the speakers says that by elimination through the bowels you don't get rid of this trouble. That is true, for the reason that you have only half administered your treatment. So long as you allow the cause to exist so long will the effect follow. In the elimination he speaks of, he is treating the effect and not the cause. He removes a portion of the poison by elimination, but the treatment in these cases is not so much in elimination as in the arrest of the formation of the poison. If the treatment of elimination is at the same time accompanied by the removal of the cause, you will cure the disease. There is no more important question before the profession today than that under consideration. I believe with the essayist that a large percentage of diseases have their origin in autointoxication, and to reach them we must arrest the fermentative process as well as elimininate the products.

Dr. J. B. Norman, California: If elimination could be carried out perfectly we could cure these cases, but the trouble is that there is frequently a dilatation of the colon and sigmoid making it impossible to keep them clean, and a residuum of feces keeps up the trouble. I don't believe in saddling everything on the blood. We should aim to prevent the absorption of the poisonous products into the blood by keeping the alimentary tract as clean as possible.

Dr. P. C. Scholz, St. Louis: I agree with what has been said, but believe you are dealing with effects. The best I can say is to avoid it by the education of the people. The people live wrong, in wrong surroundings. They are not clean, foods are not properly prepared. Those of you who work among people who are employed in mills and factories know that their hours are long, they are compelled to eat rapidly, have but little time for recreation and of course they are neurasthenic. An important fact is what they eat, as well as how they eat it.

Dr. C. W. Reagan, Macon: I want to call your attention to autointoxicaiton in pregnancy. I have a case on hand now; a young woman of 20 has developed a rapid pulse and high temperature, and this is the culmination of a condition that has been coming on for weeks. She is six months pregnant. Now what are we to do with this case? Remove the exciting cause of the trouble or let it run on until she has convulsions? I would suggest the elimination not of the foetus but of the toxines by way of the

excretory organs- the kidneys, the liver and the skin and leave the evacuation of the uterus as a last resort. Deplete the circulation and lower the blood pressure with cathartics, diuretics and diaphoretics and compensate by the use of normal saline solution.

Dr. Hanks, in closing: Elimination by the alimentary canal is not the only means at our command. The various baths which stimulate the skin will relieve a large per cent. of these patients, aided by the use of antiseptics which help materially to reduce the production of the toxins. While you cannot render the intestinal canal aseptic you can decrease the toxic products very materially. Whenever you stimulate the excretory glands you lesson very materially the faulty conditions which prevail.

BLOOD PRESSURE AND ITS RELATION TO DISEASES*

BY FREDERICK W. FROEHLING, M. D., KANSAS CITY, MO.

Blood pressure, and especially increased blood pressure, has, in late years grown to be of great importance to the clinician as well as the physician at large. In earlier days, only the physiologist endeavored to ascertain the blood pressure, and had devised complicated apparatus and methods for this purpose. These methods could easily be used on dogs and other animals, but not on human beings. Pathology, therefore, derived very little benefit from these researches and only when Von Basch in Marienbad, Austria, invented a simple and handy apparatus which could be used on persons, did pathological blood pressure become of more and more interest to physicians. Since the days of Von Basch there have been a good many other instruments gotten up for the same purpose, and based on the same principal.

The best known of these are those of Von Basch, Riva-Rocci, Gartner and Sahli. I, personally, have used Sahli's instrument, which combines the advantages of that of Von Basch, as well as that of Riva-Rocci. The clinicians who made researches in this direction were, for a good many years, only interested in increased blood pressure, Von Basch, the father of these investigations, already found two great groups of diseases, which are accompanied by a very significant increased blood pressure-nephritis and arterio-sclerosis.

The increased blood pressure in the different forms of acute and chronic Bright's disease, and especially in interstitial nephritis, is today an everywhere recognized symptom of these affections. Even acute infectious nephritis, for instance from scarlet fever, has a marked increased blood pressure. This is so regular that Riegel could diagnose an impending nephritis with certainty, at a time when the urine did not show any signs of kidney disturbances. In the hemorrhagic forms, Neu and Butterman found highly increased blood pressure. In cases of acute nephritis from poisons, for instance arsenic or phos-

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phorus, the blood pressure is a normal one, according to Krehl; the same is the case in amyloid degeneration of the kidneys. The greatest increase of blood pressure we find in chronic interstitial nephritis, and this symptom is so marked and so certain that I must attribute the same importance to it, as we do to the findings in the urine. In the beginning, this increased blood pressure might be very light, might even only reach the upper region of the normal, but as the disease progresses, the blood pressure goes up higher also. This is such a general experience that I might call it an established fact. The cause of this symptom is perhaps easy to understand. The retention especially of stuffs of the N metabolism in the blood causes a general contraction of the arteries, and consequenutly, the increased blood pressure. The more the kidneys are diseased, the greater the retention of these stuffs will be, and therefore, the blood pressure increases in proportion. There is still another factor in the production of this symptom, and that is the difficulty of the circulation inside of the diseased kidneys. The more glomeruli that are destroyed the greater the destruction of blood vessels in the cortical region also, and the circulation has to seek new passages. The blood rushes through the medullary region, with increased rapidity, and the consequence is the production of an increased quantity of urine of low specific gravity.

During the last few years I have learned to value the symptom of increased blood pressure in chronic interstitial nephritis, so highly that I would no more think of omitting to take it, than I would omit examining the urine. In a number of cases, the sphygmomanometer was the deciding factor in determining whether Bright's disease existed or not.

Only the other day, a woman of thirty-five years was sent to me with the diagnosis of "kidney trouble". Patient is five feet two inches tall and weighs 185 lbs. She has a fatty heart. Repeated examinations of the urine showed no albumen, but the presence of a good many spurious casts (mucus casts). The patient is, without any doubt, of that build which often produces Bright's disease. I had to ask myself whether this wasn't one of those case of interstitial nephritis, in which albumen and casts are rarely found. The difficulty was increased by the fact that the urine was quite diluted each time we examined it. The blood pressure alone gave us certainty. Sahli's instrument showed a pressure of 120 cmm. I might remark here that the normal blood pressure in the Sahli instrument is a little higher than in other devices, ranging from 110 to 150 cmm. This low pressure excluded the diagnosis of Bright's disease at once. On the other hand, I have often been able to make this diagnosis before I had examined the urine.

I cite, for instance, the case of a gentleman of fifty-two years of age. He came to me complaining of frequent headaches and other disagreeable feelings, which he was unable to define. The patient is

rather a florid complexion, pulse hard, second aortic sound accentuated. Left heart a little enlarged. Blood pressure 250 cmm. These symptoms made me feel sure that I had a case of chronic Bright's disease to deal with and the examination of the urine only verified my diagnosis. But I have learned to value the use of the sphygmomanometer, not only for diagnosis, but also for prognosis, in Bright's disease, and this is a point which I have been unable to find mentioned in literature. I therefore draw the attention of the practitioners especially to it, believing that a good deal of advantage will come out of it, if it is generally recognized. I wish to state here, that I regard a case of comparatively low blood pressure, as having much better prognosis than one which has a high one.

If this low pressure continues for a long time or increases only very slowly, I know that this patient will live quite a number of years yet. As an illustration of this statement, I want to refer to the case of a lady which has been under my observation for nearly seven years. The highest blood pressure I ever obtained in this case was 170 cmm. but as a rule it is 150 and 160 cmm. The patient is practically in the same condition she was six years ago. The disease makes very slow progress and under a sensible dietary regime she feels comparatively well. I know that, in the end, the patient will die from her affliction, but she still will have a goodly number of years to live, if nothing else occurs.

As to the diagnoisis of Bright's disease, there can be no doubt whatever, in this case.

In contrast to the latter case, I will again refer to the one of the gentleman with a blood pressure of 250 cmm. This patient has a pressure above the normal upper limit of 100 cmm., that is, nearly twice the normal amount.

It seems self-evident to me, that the heart will not be able to stand this tremendous strain for a long while. The affection is evidently about two years old. The rapid progress of the disease, in connection with the high blood pressure, make me believe that that man has only a very few years more to live.

The investigations concerning the relation between blood pressure and arteriosclerosis are not finished yet, and physicians, the whole world over, make valuable contributions toward the solving of this problem. Von Basch was the first one who made investigations in this line, and I must say that the conclusions at which he arrived are still held as correct by a vast number of scientists to-day. He found that, in many cases in which nephritis couldn't be diagnosed, the blood pressure was exceedingly high. He saw in this a symptom of arteriosclerosis, or angiosclerosis, as he called it, even at a time when other symptoms were lacking. He, therefore, put the increased blood pressure into the center of the whole pathology of arteriosclerosis. In his investigation, von Basch often observed that this high degree of blood pressure was not a permanent one, but that it varied and under sensible treatment, it often

returned to a normal state. He, therefore, saw in the condition a very delicate reaction of the vaso-motor centers, and called it pseudo or spastic angio-sclerosis. In this stage, anatomical changes are not present in the blood vessels,—especially the smaller vessels are in such a state of contraction that they give the left heart a great over amount of work to do. This contraction, and the greater tax on the heart constitute increased blood pressure. The investigator found this trouble often in cases of pronounced neurasthenia, and especially in individuals with bad habits, (alcoholism, abuse of tobacco.) and in individuals who are subject to great nervous exictability. As we all know, such patients suffer from an unbalanced blood pressure. If these conditions only prevail temporarily, or can be gotten rid of, they won't make any changes inside of the blood vessels at all; but if, as is often the case,the patients keep up their old way of living, etc., the condition will lead to a pronounced general arteriosclerosis, and, perhaps, later on, to nephritis. The Frenchmen, and especially Buchard have accepted these theories and distinguish between a pre-sclerotic state, which corresponds with the spastic angiosclerosis of von Basch, and a state of developed arteriosclerosis. I consider these teachings of von Basch correct, as far as the angiosclerosis of the smaller blood vessels is concerned, which he, with full intention, brought into contrast with the developed atheroma of the larger vessels. Later investigators, and especially the French, have tried to apply the teachings of Von Basch to arteriosclerosis in general. They affirm that general arteriosclerosis is always accompanied by high blood pressure; and here is where they are wrong. Krehl, Romberg and a number of others have found that in the majority of these cases the blood pressure is an absolutely normal one. This corresponds with my own investigations, but on the other hand, I must say that there are a good many cases of arteriosclerosis in which the blood pressure is increased. The reason for this variation is not known as yet. Krehl thinks that the blood pressure is higher in cases where the ascendant aorta and the splanchnic vessels are affected, but Geisbeck reported a case where these very vessels were found to be greatly affected,but where there was neither an increased blood pressure intra vitam, nor was a hypertrophy of the left ventricle found at the postmortem. French physicians have recently tried to introduce the "essential increased blood pressure" and their journals are full of observations on this subject. They have in mind a condition of increased blood pressure, without arteriosclerosis and without nephritis. This especially they call "hyper-tension artirielle", and they are trying to demonstrate a new disease, in which the increased blood pressure is the main symptom. Endogenic and exogenic toxines are given as the causes of this disease. They name, alcohol, lead, tobacco, etc. on the one side, while on the other hard chronic constipation and dyspepsia, with the formation of poisonous stuffs are said to produce the condition. These symptoms then lead later on to general arteriosclerosis

and Bright's disease. By looking over the French literature, we readily see that these investigators are talking about the identical condition which von Basch described already a long time ago, under the name of spastic angiosclerosis. My own experience teaches me that this affection (whether you choose to call it spastic angiosclerosis or arterielle hyper-tension is immaterial) is not a rare one. The most remarkable case I have seen in this line is that of a boy of twenty years, who has been under my observation during the last two years. When the patient first came to me, he was a perfect picture of an extreme neurasthenia. He complained of palpitation of the heart, dizziness and blackness before the eyes. Sometimes the eyesight was entirely gone for a short while. Specialistic examination of the eyes showed absolutely normal conditions. Blood pressure, at that time, varied between 160 and 180 cmm. The pulse was full and strong but the arteries as yet showed no sign of arteriosclerosis. He had some stomach disturbances (superacidity) and was constipated. The boy attended at that time the Central High School of our own town and his studies increased his difficulties greatly. He soon graduated, and under proper dietary, electrical and water treatment he gradually got rid of his ailments. At the beginning of last winter he went to Ann Arbor to study law; but his stay there was of short duration. Before two months he was compelled to come home. All his old symptoms had returned in a greatly aggravated form. He was in an extremely nervous state. The blood pressure now showed 240 cmm. and in both radial arteries pronounced arteriosclerosis was perceptible. It took a good while before I was able to get the patient into a fairly comfortable condition. He isn't entirely well yet,—the blood pressure is still above normal (170 cmm.). This case teaches us several lessons; 1st, that the condition which Van Basch calls spastic angiosclerosis certainly exists. 2nd, that arteriosclerosis is not alone a disease of old age, but that it can appear in a boy of 20 years. 3rd, that we ought to place a great deal more importance than we do upon functional troubles. 4th, that functional troubles may sometimes change into real organic ones. I might mention that the history of this boy is absolutely free from syphilis, alcoholism and use of tobacco.

Lately a peculiar disease has come to our knowledge which combines a hypertonia of the blood vessels with a pronounced polycythaemia. These cases are real representatives of plethora-vera. The patients have a very florid complexion, the blood seems to always rush to their heads (apoplectic habitus). They have a high blood pressure and a blood count of red cells, sometimes from eight to eleven millions. The patients, in question, are generally over 40 years old. The pulse is full and strong, the vessels of the retina are overloaded with blood. I have only seen one case of this kind, and that in rather a mild form, of a young lady of 20 years, with a blood count of 6,500,000 red cells and a blood pressure of 160 to 170.

When we have spoken of blood pressure in general, we always meant the highest phase of this pressure produced by the systole of the heart. This is called the "systolic blood pressure," and up to the last few years only this was taken into consideration in clinical work. In those classes of diseases we have discussed above, it is entirely sufficient to know the systolic pressure. But now we have arrived at the last group of pathological affections, in which this is not alone adequate. This group is that of diseases of the heart, in which we also have to take the so-called "diastolic pressure" into consideration. It has only been during the last few years that we were able to use this phase of blood pressure in clinical work. Masing, Strassburger, and Sahli, especially the last two, have given us, independently from each other, methods with which we can easily ascertain the diastolic blood pressure also. We can only use the apparatus of Riva-Rocci or that of Sahli which is a modification of the former, for this purpose. The Strassburger method is as follows: The systolic pressure is ascertained as usual by applying the rubber cuff around the arm and pumping it quickly full of air, enough to make the radical pulse disappear. This moment represents the systolic pressure which can be read off from the apparatus in cubic millimeters. The diastolic pressure is taken in the same way only we watch now for the point at which the pulse commences to grow weaker. This is done entirely by palpation with the fingers. Sahli uses the sphygmorgraph of Jaquet, which writes as well the curve of the pulse, as the time during which this curve is taken. As soon as the curve commences to get lower we have the point of the diastolic blood pressure. The one is the maximal pressure, the other the minimal and the difference between these two phases is called "pulse pressure," by Strassburger. This author had great expectations of the development of our knowledge of heart diseases, by the use of these methods. If not all of these expectations have been realized, at least a great deal of good has come out of them.

The pulse pressure, that is, the difference between systolic and diastolic pressure is under normal conditions 30 mm. Hg. In heart affections it differs essentially. For instance, in cases of aortic regurgitation it varies between 40 and 70 mm.. In cases of stenosis of the aorta it is 20 to 22 mm. I have often used these facts for the diagnosis of approaching incompensation as well as for therapeutic considerations. I will illustrate this with a few examples. If we have a patient with aortic insufficiency, or any muscular heart affection, for instance myocarditis or fatty degeneration, and we have a high systolic pressure and also a high pulse pressure, which means a low diastolic pressure, I know that incompensation is not yet present, but will soon come. Sahli calls these conditions, which cannot be felt with the finger on the pulse, "high pressure stasis." And in spite of the full strong pulse, we must give in these cases digitalis, or other heart stimulants. This fact, alone, shows the great importance of the methods under dis-

cussion. But I will go a little further and cite a case which lately came under my observation. This case is that of a lady of 52 years. She had been ailing for about a half a year. The subjective symptoms were general weakness, palpatation of the heart, shortness of breath, and pulsation in both carotids. The examination revealed a full strong pulse, a slight enlargement of the left ventricle and a light diastolic murmur over the aorta. The systolic blood pressure was 240 cmm., the diastolic, 220, pulse pressure, therefore, 20 mm. I had here a tremendously high blood pressure during the systole and diastole. Both carotids were highly pulsating and the woman was in a most miserable state. I saw at once that if that heart kept on working under such an enormous pressure, it would soon give out totally. Digitalis, etc., were certainly not indicated as it would only have increased the blood pressure and therefore made matters worse. I put the patient to bed and gave her, for about two weeks, absolute rest. Furthermore, I prescribed a lactovegetarian diet and as I had all reasons to suspect a specific history, I also gave her the new iodine preparation of Fischer, sajodin, which has no bad effect on the stomach whatever and gives an excellent iodine action, only the ascertaining the blood pressure on this case,enabled me to proceed in the right direction, thereapeutically speaking, as I could not have excluded, with certainty, the high pressure stasis without the sphygmomanometer. I have not found any similar case mentioned in literature where our instrument played the same deciding role. The patient improved quite rapidly; later on I gave her faradic electricity in the four-cell bath of Dr. Schnel. I can recommend the use of this kind of electricity very highly in cases of extremely high blood pressure. One can feel during the application that the artery becomes softer and the blood pressure much lower than at first and this fact, I have been able to prove several times, directly by measuring the pressure with the Sahli apparatus. Of interest here are, the investigations of Fellner in Nothnagel's clinic with patients who suffered from chronic interstitial nephritis. He found that the pulse pressure in all cases, with compensation, was increased earlier than the systolic pressure. And the further the disease progressed, and the greater the difficulty of heart action, the higher is the pulse pressure, also. For instance, in some beginning cases, he found the systolic pressure to be 100, 120, 130 and 140 cmm., with the corresponding pulse pressure of 35, 37 and 38 and 40 mm. But the patients with the higher blood pressure between 135 and 250, had a pulse pressure varying from 47 to 70 mm. This means that the highest systolic pressure has the lowest diastolic pressure in proportion.

During the last year have made use of the Sahli instrument for functional diagnosis in heart cases. For this purpose I used only the systolic pressure. In cases where there was often no perceptible sign of any serious incompensation, I have comparatively often been able

to force the approach of such a difficulty. I require the patients to go through a certain amount of exercise for this purpose. I have in my office a nebulizer with a hand air pump, which I cause the patients to work for about five minutes. With a normal heart the blood pressure will only increase slightly or not at all. It is the same with a well compensated heart failure, but if the blood pressure goes up more than 20 or 30 cmm., I have to look out for trouble. The highest pressure is not found immediately after the exercise, but from one to two minutes later. Any other kind of real exercise would have the same effect. To verify this statement I will refer to a case of a man of 52 years, with a chronic myocarditis. The patient had never had any serious incompensation, but one day the blood pressure jumped, after the above mentioned exercise from 150 to 200 cmm., and the next day the first symptoms of incompensation were perceptible, and it took a great deal of digitalis to bring the heart back to its normal state. The pumping never should be done violently.

Fellner and Rudinger published lately in No. 15 and 16, of the *Berliner Klinischer Wochenschrift*, another functional heart test with the use of the sphygmomanometer, on Jaquet's sphygmograph on the basis of Katzenstein's phenomenon. They examined 70 heart patients, and obtained excellent results, but as the Katzenstein method did not prove satisfactory in other hands, we have to wait for further developments.

It is impossible for me to go into detail of the method of these authors, and I refer those who are interested in it, to the article itself.

In conclusion I might say that I have endeavored to give a fair picture of the present standing of the blood pressure question, as far as is possible in the comparatively short time allowed me. I have given you the main points in literature and have tried to broaden them from my own experience in this line. The principal reason for choosing this subject, is that I wish to interest every practitioner in this method of examination, and I hope that my attempt will not prove to be a fruitless one.

DISCUSSION.

Dr. J. R. Lemen, St. Louis: This subject is of great importance not only to the internist but to the surgeon. We will see the day when we will think the sphygmomanometer as important in making a diagnosis as we now consider the thermometer. I have been able not only to make the diagnosis of such diseases as accompany or follow a high blood pressure, but I have been able to prognosticate the outcome by the use of the sphygmomanometer. The importance of taking the systolic and diastolic blood pressure in heart disease is of rather recent development. Sir William Broadbent, of London, has done a great deal of work along that line and read an excellent paper on the subject last year before the British Medical Association. The instrument he has been using is that of Mr. Oliver. It is a simple instrument and one that can be readily used in the office. In reference to the blood pressure in connection with interstitial kidney

trouble, we can often discover the pre-intestinal nephritic state by the use of the sphygmomanometer, and we can expect the development of the disease from this high blood pressure.

Dr. J. M. Allen, Liberty: Whenever a new idea is suggested, I always ask, is it logical? Is it based on truth? And when I decide that it is based on truth, I begin to study it. Now this is a new idea along the line of therapeutics. It applies just as well to acute as to chronic conditions. I have the Oliver instrument and it does good work, and I have many records. All that the doctor says of blood pressure in its bearing on kidney and heart disease I can verify. It will tell you at once the prognosis in many diseases and by watching the blood pressure you will know how to apply your remedies. I have not the fear of temperature that some men have, but blood pressure is a matter of importance and in cases of high tension, by putting the patient on a treatment that will lesson the blood pressue you always bring about good results. I am sorry for the young gentlemen who have come in our profession since the introduction of the thermometer, for they have not the cunning in the sense of touch that the older men have. The first thing that attracts my attention is the blood pressure.

Dr. J. P. Kanoky, Kansas City: The doctor has not referred to the fact that there is a decided difference in the blood pressure, taken when the patient is sitting and when standing, or lying down. The Riva-Rocci is not a costly instrument, is easy to apply and is easy to read. It gives better results than any instrument I know of. By having the patient lie down you get an equalized pressure. It is a most excellent aid in diagnosis. I hope the value of the sphygmomanometer will be further investigated. Its use is still in infancy and we know but little of what we should know of it. As a diagnostic aid in obscure internal diseases.

Dr. Robert T. Sloan, Kansas City: Like the others I was interested in the paper, which shows extensive reading and careful study. This matter of arterial pressure has panned out differently clinically from what we expected. As an illustration I might mention our theories as to the use of iodine in arteriosclerosis. A patient presents himself for examination and we find him suffering from high blood pressure and symptoms of arteriosclerosis. We put him on iodine, which gives prompt relief, and then take his blood pressure again and find it just the same that it was before, or possibly the blood pressure may be 10 or 15 mm. higher than it was before. Now what did it? Evidently the iodine did the work. It relieved the man of his symptoms. Nothing else was done. The iodine was given and the symptoms we have heretofore recognized as those of high blood pressure disappear, yet the blood pressure may have actually increased.

Dr. Froehling, in closing: I have omitted, for lack of time, many facts that I wished to include. One gentleman called attention to the fact that this method is of value in surgery. It is true that it has been used extensively in that line and often surgeons will postpone an operation as a result of the reading of the instrument. Dr. Allen's remarks were of great interest to me. We are only in the infancy of this science and many of the results are apparently at variance. So far as acute diseases are concerned I have not made so many examinations in that line, for I do not see many such cases, but I am sure we will derive some good as a result of the study of it. That we should take the blood pressure in the reclining position is correct. As to Dr. Sloan's remarks, in the development of arteriosclerosis the blood presssure is not an infallible sign. We have not in the majority of cases an increased blood pressure, but in others we do have it. Why

this is the case we do not know. It was thought that in affections of the aorta or the splanchnic region the blood pressure would increase, but cases have been shown where these changes occurred, yet during the life of the patient there was no increase in the blood pressure, only an enlargement of the heart at autopsy. As to the effect of the iodides in arteriosclerosis, we are still in the dark. They act all right. I cannot say why there was an increase in the blood pressure in Dr. Sloan's case after taking the iodine. As to the action of the iodides, Romberry believes that the iodides decrease the viscosity of the blood in consequence of which the blood rushes more quickly through the arteries, thus preventing the progress of the process. He thinks that the iodides do not have any effect on the arteriosclerosis itself but merely on the viscosity of the blood. On the other hand the authority who gave us the method of finding the freezing point of the blood and urine, Koranyi made experiments with adrenalin and found that it certainly tended to the production of arteriosclerosis, but if, on the other hand, he gave iodine, these changes did not occur, and if they were present there they would tend to disappear under the use of the iodine, thus seeming to indicate that the iodides did have some effect upon the arteriosclerosis itself.

PRESIDENT'S ADDRESS.*

BY W. P. ROWLAND, M. D., BEVIER, MO.

The early practice of medicine was a strange mingling of truth and falsehood, a compound of empiricism and theoretical vagaries, so that in a perusal of the history of the lives of the early teachers we are impressed more with the honor paid to them—the veneration which they commanded—than with their teachings.

And particularly is this the case when we think of the scant courtesy with which the masters of our profession are received in these days of profound scientific research, when operative surgery and preventive medicine especially, are moving forward by leaps and bounds, making evident to the most casual observer the immense benefits to mankind arising from the splendid work accomplished.

During the past century many in the realms of politics, war, the varied industries and sciences have been praised in their day, had honors accorded them and their names handed down in history for the deeds they have accomplished. It is within that time that such great progress has been made in medicine, more, indeed, than in all the centuries previously. But where are the honors which should have come to the tireless workers, the master minds that have pushed dogmatism to the wall and caused medicine to blossom forth as a science?

As a profession we honor and perpetuate the names of such men as Morgagni, who introduced anatomical thinking into medicine; Hal-

*Delivered at the Annual Meeting of the North Missouri Medical Association, Gallatin, Mo., June 20-21, 1907.

ler, who taught the functions of different organs; Hunter, who established pathological anatomy and experimentation; Jenner, who laid the foundation of sero-therapy and Virchow, who fixed the throne of life in the invisible cell.

But these names are little known outside of the profession, and, added to the lack of knowledge of the public regarding our great men of the past, no steps have as yet been taken by us as a nation to honor the living or memorialize the dead heroes of our profession.

Some time ago when the niches in the Hall of Fame—the rotunda of the Capitol at Washington—were to be filled, there was a certain amount of surprise and no little disappointment, in the medical profession at least, that no physicians were included in the list of the chosen. Many of us thought that Rush, Sims and McDowell should have been selected by their respective States, but it was not to be.*

There are no group of men of like importance in our land whose pictures and personalities are so unfamiliar to the public as those of our distinguished physicians and surgeons. And there are no public honors for which they can hope.

Should the pictures of Mitchell, Price, Jacobi, the Mayos, Murphy, McBurney, be printed in our daily papers it is doubtful if one in 10,000 of the readers, barring physicians, would be able to understand, without explanation, to whom they applied. And yet each one has done more for humanity than possibly all of the popular heroes of the day combined.

And if we should present the features of those who have passed away during the past century; men who were the giants of the profession, who were renowned in their day and generation and revered by us, such as Gross, Davis, Hodgen and a host of others; even with an explanation, only a passing interest would be manifested by the exceptional reader.

Doubtless the members of our profession do more for the advancement and welfare of mankind than do all the statesmen and philanthropists combined. Through their efforts, largely, excellent public and private hospitals for the care of the sick and afflicted, have been erected in rapid succession in all our cities and through their services, rendered conscientiously to rich and poor alike, untold suffering and an incalculable number of lives have been saved. Through work done in the silent laboratory our unselfish heroes have won bloodless battles with the most stubborn enemy of man-disease. Through this channel

*In the issue of June 22, 1907 of The Journal of the American Medical Associations, appears the following:

*Honor Physician—The State of Georgia is said to have fixed on Dr. Crawford W. Long, for his pioneer work in anesthesia, as one of the two representatives of that state whose statues are to be placed in the Statuary Hall of the capitol at Washington.

we have been taught how to prevent or check the ravages of that very prevalent and so frequently fatal disease, typhoid fever; erysipelas, formerly the bane of camp and hospital and more dreaded than the enemy's bullets, because of its rapid spread from patient to patient, is now throttled in its inception; puerperal sepsis, the foe of motherhood, which has probably been more fatal than the world's wars, has been conquered to such a degree that it is practically unknown among the younger physicians of to-day; tetanus and hydrophobia with their ghastly records, have been shorn of their terrors and placed among the preventable and curable diseases; diphtheria, which has been as fatal among children as puerperal sepsis among mothers, is no longer dreaded; and infection, the great foe of the surgeon, has been made so harmless through asepsis that the joints and even the large cavities are opened with impunity. Indeed the field of operative surgery has no boundary line beyond which the bold and skilful surgeon dare not hope to go. The central figures in producing immunity from inflammation through the discovery of its microbic cause, which has contributed more to the prolongation of human life and the mitigation of suffering than all previous medical knowledge are Pasteur and Lister, and when coupled with the name of our own Morton, the discoverer of anaesthetics, we have a trinity which constitutes the scientific saviors of the human race.

The public is more familiar with our conquest over smallpox, yellow fever, cholera, and bubonic plague, those pestilential scourges which formerly swept like a conflagration over the world, now hardly known in the advanced countries. Should the barriers placed by our profession be taken down and these scourges allowed to enter our beloved land, the howl of the man whose business would be paralyzed, the lamentations of the sorrowing and the groans of the dying, would be a sad contrast to the present happy conditions.

These conditions are practicly all the result of work done by our heroes, heroes as truly as those of war. And yet no recognition by our own people has ever been accorded them.

The conquering of yellow fever is the most recent example. Dr. Reed was the most prominent in this line of research and died while his services to humanity were fresh in the minds of men, while it was realized that the result of his labors was the saving of thousands of lives and untold millions of money, yet that section of the country so greatly benefited begrudged him a monument befitting his worth; the few hundred dollars collected being contributed mainly by physicians.

The name of Dr. Lazear who sacrificed his life in the same cause is unknown outside of the profession.

Dr. Carrol, to whom is due equally with his colleagues Dr. Reed and Dr. Lazear, the honor and appreciation which our country should bestow upon them, was the first to submit to an experimental infec-

tion with the yellow fever infected mosquito and established, through his own illness, the truth now so well known, a truth which has made it possible to build the Panama canal without great sacrifice of life and which when completed will make our government the arbiter of the Western Continent for all time to come. But more than this it has solved the means of keeping that dread disease, yellow fever, from our own shores or, in case of its reaching us accidentally, has taught us how to stamp it out quickly and prevent its spread. During the past winter an effort was made simply to retire Dr. Carrol with the rank of Lieutenant in the United States army, a very modest recognition and return, indeed, for the immense benefits derived from his researches, but if the effort was ever mentioned outside of the professional journals it was not noted by the writer.

Such examples make it questionable whether as a nation we appreciate the work of our medical heroes. In contrast to this notice the result of the recent popular vote in France as to the ten greatest Frenchman of the nineteenth century, when Pasteur led the list. In a similar test in Germany as to the twelve greatest men of the Fatherland, Koch stood third, Von Behring eleventh. Again the seventieth birthday of Von Bergman was made the occasion of a national expression of very real affection. On that day there called upon him some forty delegations containing the Ministers of War and of Education, men notable in the arts, in music and the drama, and the universities were impressively represented. At the death of Von Bergman, Bier, who instituted spinal anaesthesia, was chosen to fill his place as a recognition of his eminent services to humanity.

Roentgen, as a reward for his great discovery, was placed upon a liberal allowance to be paid out of the national treasury, to continue throughout his life.

Comparing these examples with our government's neglect of its medical heroes, the question can be pertinently asked, why we as a nation fail to appreciate the researches and sacrifices of men whose deeds redound so greatly to the welfare of the human family? The answer may be found in a comparison of the political conditions in the two Republics, France and our own Country.

In the Senate of France consisting of 300 members, 40 are physicians; In the United States Senate consisting of 90 members, there is but one physician. In the French Chamber of Deputies, corresponding to our House of Representatives and consisting of 595 members, 52 are physicians; out of 386 in our House of Representatives, only three are physicians. In the combined Houses of the French Republic, representing forty millions of people, are 92 physicians. In the combined Houses of our own Government, representing eighty millions, there are but four physicians; and the contrast is emphasized when we remember that there are but 30,000 physicians in France,

whereas in our own land there are 120,000.

The Premier of France, Combes, to whose initiative, energy and persistence is due the separation of Church and State; and Clemenceau, his successor, who is carrying to completion the great reforms inaugurated by Combes, are both physicians.

And what can be said of France can be said also of Germany and England, for in the Reichstag and in the Houses of Parliament are always found a liberal sprinkling of physicians. Added to this are acknowledge public honors, such as the Legion of Honor of France, acknowledged by the world for the merit which is required before the coveted medal can be worn. Nothing of a similar nature can be found among us.

In the absence of medical men from the halls of Congress lies the secret of our nation's lack of appreciation of the heroic and humanitarian work done by members of our profession. Next to the lawyer, the doctor, through his superior education and contact in practice with all manners of men, is preeminently fitted for legislative work. If proof were needed as to his capabilities in this line no better example could be cited than the first citizen of the beautiful city in which we meet to-day.* So that it remains for the medical profession to act. The steps now being taken by the national, state and county medical societies to organize and work as a unit, can, by being directed toward sending medical men to Congress, soon secure such a representation that public recognition for our meritorious ones will become a matter of course and this recognition will in its turn become an incentive to the industrious and talented among us to renewed efforts for the upbuilding of society, the safeguarding of the public health, and the furthering of human happiness, always objects of our profession's best endeavors. With a strong representation in Washington it will be comparatively easy to add another member to the President's cabinet—a physician who will be recognized by all as the most important member of that distinguished body, for he will have the health of the nation as his special charge.

From this it will be but a step to the nationalizing of our medical schools and when this is accomplished, professorships in these institutions will be looked upon as position of honor for which our master minds will strive, and attention being drawn to them through being nationalized, the public will demand that men of preeminent ability, or who possess peculiar merit, be made the recipients of these honors.

Whether or not we are appreciated by the communities in which we live is largely a matter of individual magnetism and merit. In my judgment there are no people under the sun more appreciative of the services of their family physicians than our own. The absence

*Dr. Alexander M. Dockery, repeatedly returned to Congress as representative from Missouri, and also Governor of the state, 1900-1904.

of class distinction makes it impossible to view the conscientious doctor as other than a friend. They know that, though he may be poor, he does more for sweet charity's sake than is done by all others of the community. Though not over religious, that he practices more christianity than the clergy; and though a public servant, that he is the one to whom they look with trust and confidence in the hour of greatest need.

I know of no better way to illustrate the esteem in which the faithful physician of our own land is held by his patients than by mentioning one who at the time of his death, which occurred during the past year, was first vice president of our State Medical Association. His lot was cast in the country and his practice throughout was largely charitable. Broad and liberal in his ideas, his great learning, his clearness of thought, his sympathy with the sick, his freedom from professional jealousies, and his encouragement of the younger members of the profession, stamped him as a leader in his limited world of action. He was the patron saint of the sick room. He was inspired by the voice of suffering humanity and threw himself into the fight against disease with an enthusiasm which inspired those who sat at his feet and learned wisdom. The confidence with which he inspired the members of his profession was also shared by his patients, for I have seen suffering ones, after a night of pain, and nurses, after a siege of dread and worry, heave a sigh of relief when he stepped upon the threshold; for here was one on whom they had learned to rely, one who shouldered the responsibilities without a murmur and who shed the radiance of his kindly disposition over all. When it became known that he was on his death-bed the grief of those among whom he had labored was as intense as though it had been in their own families. And at his funeral services, in which eulogies were pronounced by representatives of his profession and of his church, and by a former Governor of our state, women were unable to control their grief and strong men of the pioneer stamp spoke with sobbing voices of the virtues of their old friend and reliance in the dark hours of sickness and despair.

They recalled his tireless devotion to his patients, how he had sacrificed his own comforts to minister to their loved ones, never failing them in their hour of need. They told of daily deeds of kindness, and of how day after day and night after night, exposed to the elements, exposed to infection, without thought of self, intent only upon saving human life, he had by his quiet, unostentatious heroism, endeared himself to all with whom he came in contact. They praised him as they recalled the sight of the mother clasping to her glad bosom the darling whom he had rescued from the clutch of death. They praised him as they recalled the relief he had so many times brought to the body burning with fever and to the watching hearts

nearby, burning with the anxiety of love. And when I heard these heartfelt words of praise and realized the void left in their lives through his death, I knew that we are appreciated at our true worth by those who know us best. And when I remembered that the great warriors of history, by digging trenches in the earth and filling them with the slain, had brought grief, and sorrow and suffering to human hearts, and that this great and good man had devoted his life to the prevention of sadness and to the relief of pain, I thought I would rather have been Dr. Allen of Callao, whose body lay before me, with his record of joy and gladness brought to loving hearts through the saving of parents to children and children to parents, than to have been the most successful conqueror, whose deeds have been perpetuated in song, painted on canvass or sculptured in marble.

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Publication Committee:
Walter B. Dorsett, Chairman.
M. B Clopton. M C. Shelton.

EDITORIAL.

THE WAR ON QUACKERY.

The war on quackery in this state has commenced in earnest. Two of the worst offenders have been deprived of their licenses to practice. They are Drs. W. O. Bye and O. A. Johnson, fake cancer specialists, of Kansas City. The State Board of Health tried these pretenders, found them very innocent of any knowledge of the science of medicine but most guilty of gross misrepresentation and fraudulent practices; and revoked their licenses.

The Association owes much to the profession of Kansas City for working up these cases; it owes a debt of gratitude to the State Board of Health for the prompt action taken by that body and it owes a special vote of thanks to Mr. George Creel, editor of the *Independent*, of Kansas City, for his assistance in the prosecution of these cases and for his fearless arraignment of the quacks who have infested that portion of the state.

We would like to publish the evidence in full but cannot do so for want of space. The *Independent*, of Kansas City, is the only paper that published an account of the trial and every doctor in the state should read it.

THE ELIMINATION OF THE QUACK.

The work that was begun four years ago when the reorganization of our Association was completed, is ripening into fruition. With the passage of the new medical practice act by the last legislature, the profession of Missouri entered upon a new era and today we confidently look forward to an ideal state in medical matters which could not be approached under less propitious circumstances than those which now surround the practice of medicine in our state.

Hitherto the medical profession has received scant courtesy from the law-making bodies when reforms and improvements in our medical laws were requested, principally because the great majority of

physicians failed to respond to appeals for their support of changes introduced, while the opposition to stringent medical laws was always active, strong, determined and, heretofore, successful.

Let him who doubts that our organization has strengthened the position of the medical profession look back over the past few years and recall the conditions as they existed then. Inaction, apathy and indifference characterized the attitude of almost the entire profession toward illegal practitioners, toward the fraudulent practices and the deceiving advertisements of the ignorant quack and the artifices of the traveling faker. Why? Because no law could be passed which would give us the power to prosecute these swindling imposters. Through organized effort we have accomplished in a brief time what would have been utterly impossible in any length of time without organization. Not only have we a medical practice act which will insure the eradiction of the quack from our state, but the medical profession now has representation on the Board of Curators of every state institution of an eleemosynary and educational character; we have a state sanatorium for incipient tuberculósis; we have a pure food law; and the law governing prosecutions for criminal abortion has been mended to make that crime a felony and so changed that convictions may be more easily obtained.

We cite these successes in order to remind the members that through organized effort we can accomplish many things. Our object here is to arouse every county society to activity in the prosecution of quackery. Fortunate, indeed, is the profession in having a State Board of Health whose members can be relied upon to do their duty in every case when the evidence is sufficient to convict. This evidence must be gathered by the members of the county societies, and the task is not a light one for it will involve loss of time, expenditure of money and much personal inconvenience; yet without such sacrifices all previous efforts will have been in vain. The State Board of Health can prevent incompetent persons from taking out licenses but it cannot revoke the licenses of those who are now engaged in illegal practices and fraudulent procedures, unless the members will take up the work of prosecuting them.

We now have a law that exacts knowledge, ability, education, learning and a standard of character, which will permit only worthy men and women to enter the ranks of our noble profession. No longer need the honorable members of the profession in this state hesitate to bring before the State Board of Health charges of illegal practice or gross unprofessional conduct against persons guilty of these acts. The law is plain and provides the specific remedy. The time has passed when we shall be compelled to view the mischievous work of the ignorant quack and see the charlatan play upon the fears of the unfortunate sick, only to leave them finally in a hopeless, if not in a dying condition, while we, perforce, stand by powerless and impotent to raise even

a feeble hand in protest because the law—or the absence of law—protects them. Upon the organized profession has been placed the burden of cleansing Missouri of this class of pretenders and each county society must assume its share of the burden. Let us not fail in our duty.

The members in Kansas City have taken the lead in this matter, as they have in many other things, and successfully prosecuted before the State Board of Health two of the most disreputable of the fakers who have dishonored our cult. Bye and Johnson have, of course, appealed their cases to the courts but we have faith in the intelligence and integrity of the court and do not fear that the ruling will be changed.

We look forward to the time, which we trust is not far distant, when judges, lawyers, clergymen, legislators and even lay editors will realize that the labors of the medical profession are devoted to the public weal, and when they will see at last, as they surely must, what crimes have been committed in the name of medicine. Then they will abandon their attitude of indifference and become active co-workers with us in our fight against frauds and fakes in the medical profession.

PUBLIC MEETINGS.

We are pleased to observe that public meetings of county societies are becoming more frequent. Knox County devoted their meeting of July 1st to this purpose; Harrison County will hold a public meeting in October and Saline County is arranging for a similar meeting at an early date.

These meetings are very advantageous in many ways. Knowledge of hygienic and sanitary principles can be disseminated among the intelligent classes of the people in a community more effectively and more rapidly in this way than by any other means and a warmer feeling of fellowship between the physician and the public will be established which cannot fail to be of benefit to all.

At each of these meetings there should be something said, a paper read, perhaps, concerning the collection of the vital and mortuary statistics throughout the state. The general public is woefully ignorant of the importance of these statistics being made a part of our public records and until the people understand the great value attaching to such matters it will be difficult to induce the legislature to pass necessary laws and appropriate funds to insure the gathering of accurate statistics. Another subject that might be presented at these meetings is that of the free distribution by the state of diphtheria antitoxin to the poor. Papers on such subjects could be made interesting and intelligible to the laity if technical terms were avoided.

While we are educating the people along lines that will enable

them to guard against disease and infection, we can sow some seed that will bear good fruit when we go before the law-making body and ask for certain measures to further advance the interests of the commonwealth.

The early publication of the life of the late Dr. Nathan Smith Davis, "Father of the American Medical Association" by Isaac N Danforth (Cleveland Press, Chicago) will interest every member of the perfession. Aside from the facts of formal history, are the many personalities of Dr. Davis interwoven with the reminiscences and recollections of contemporaries, together with the characteristics that made him a central figure and his name a common one among physicians throughout the land. These have been especially well brought out, and the reader who thinks of meeting "only a lot of dry old chronicles" will find that his "guess" proved very far from the mark.

Members will be interested in the announcement of the early appearance of Von Neusser's Symptomatology and Diagnosis of Disorders of Respiration and Circulation, translated into English by Andrew MacFarlane, M. D., (E. B. Treat & Co.) The work will appear in three parts. Part I will be ready in September. In his preface the translator says: The development of bacteriology since Kock's discovery of the tubercle bacillus in 1881 and the application of solid culture media for the differential growth of bacteria have tended in the last two decades to lead the physician to rely for his diagnosis upon laboratory aids and less upon clinical observation. In order to be thoroughly understood and rationally treated, disease must be studied primarily in its entirety as a pathological process. The physician cannot absolve himself from this responsibility nor find any easy road through the work of another to this desired goal.

These lectures are the resultant of almost limitless clinical material and of a scientific acumen which does not overlook any fact no matter how seemingly trivial and unimportant.

CORRESPONDENCE.

THE MISSOURI SANATORIUM FOR INCIPIENT TUBERCULOSIS.

The Editor, Journal Missouri State Medical Association:

Sir:—In making the following statements I am attempting to respond to rightful demands for information by many friends of this institution, and of the tuberculous crusade in our State. Having been but recently connected with the sanatorium I think I can speak fairly of the work of the commissioners, whose duty has now terminated, and of the present condition of the work committed to the care of the board of managers.

Two years ago the Legislature made a grant of $50,000 with which to begin the sanatorium. A commission consisting of Drs. Bayliss, McElwee, and Eaton, and Messrs. Gupton and Craig, was appointed to select the site and decide on building plans. After considering a number of places, Mount Vernon in the southwestern part of the State was chosen. The only possible objection that can be made to this selection is the difficulty in reaching it. The site is beautiful and the surroundings all that could be desired. Mount Vernon is the attractive county seat of Lawrence County on a branch of the main line of the St. Louis and San Francisco R. R., north west twelve miles from Aurora.

Twenty-five thousand dollars were allowed for building purposes, to which the citizens of Mount Vernon added $6,000 and gave 190 acres of land, with electric light and water privileges for five years. The other twenty-five thousand dollars were spent in fittings, ground expenses, expenses of the board, etc., all of which I believe were allowed by the State auditor before the board of managers was organized.

The property coming into the hands of the board of managers is the land; facing south east—on a hill overlooking the town from which it is a half mile distant—a most complete pavilion, costing nearly twenty-five thousand dollars, temporary buildings, kitchen, stables, etc., furniture, diet kitchen outfit, laboratory armamentarium and library. Of these last items the inventory has not been given to the board.

The personnel of the board will interest many. The President is Dr. J. L. Eaton, of Bismarck, who certainly has my confidence. Mr. W. L. Gupton, of Montgomery City, is the secretary, and is favorably known to many of the best citizens of Missouri. Mr. W. D. Craig, of Galena, is a prominent business man, of whose earnestness and integ-

rity there can be no question. These three were on the board of commissioners. Two others were appointed, Mr. S. H. Minor, of Aurora, a well known citizen and banker, whose business methods and justice promise much for the board; and the fifth member, myself.

I say unhesitatingly, that the evident purpose of each member of the board is to make the sanatorium a success and that each one feels his responsibility and realizes what it means to the State. There are many difficulties in the way, but I am more than ever confident that the best interests of the State will be subserved and that neither politics, sentiment, nor sectional prejudice, will sway the board from that purpose.

The last Legislature gave $135,000 for additional buildings, of which sum the Governor has thought best to withhold $60,000 this year, hoping that it may be obtainable next year. With the $65,000 one more pavilion will be built and furnished and the administration building finished this year. Next year the power house and domestic building will be completed if we can get the $60,000.

The buildings, while seemingly costly for a sanatorium for incipient tuberculosis, are necessarily the most expensive ones. The two pavilions will be needed as the work grows, for infirmaries and the medical building, the domestic building, and the power house, certainly must be permanent and substantial. After carefully examining the present buildings, and the plans so far as the five above mentioned are concerned, I can say that I heartily approve them. When other buildings for patients are added, which cannot be for at least two years, doubtless very different plans will be adopted.

The board of managers recognize that the medical conduct of the cases is most important, for many even of the advocates of the sanatorium, look upon it as experimental and ask "to be shown." One of the first acts of the board, therefore, was to decide that a physician well fitted in all respects as a diagnostician, bacteriologist, and microscopist should be secured to have permanent charge of the patients and it seems, at this writing, that such a physician has been found, one who at considerable sacrifice, but with the assurance of the support of the board, will endeavor to make this great work a success. Dr. W. M. Bayliss of the former board of commissioners has been elected business superintendent, with the duties of the office and stewardship.

The board of managers will have to contend with a very small maintainance fund, only $10,000 for eighteen months. It is figured that with each patient there will be a deficit, the law fixing the charge of all county and city patients at $5 and experience elsewhere shows this to be too small. It is intended, however, to make the best of it and to open the sanatorium about August 1st.

One word more. I owe my place on the board to the will of the Governor, who has shown great interest in the sanatorium, and to my friends in the profession, for I made no application for the appoint-

ment. I appreciate the confidence. I ask that the same confidence may be extended to the other members of the board, and that forbearance may be shown because of present limitations.

We feel that this is your work and that we only represent you. If we cannot represent you well, we will stop, but with patience on your part, and patience, hard work, and some sacrifice on ours, we will succeed.

WILLIAM PORTER, M. D.

Editor of the Journal of the Missouri State Medical Association.

Dear Doctor:—The State Board of Health met at Midland Hotel, Kansas City, Mo., on July 30, 1907, and passed upon the grades of the applicants who took the examination at Mexico, Mo., on July 9, 10, 11th, 1907. Out of twenty-one whose grades were passed upon, nine passed and twelve failed. The schools represented and year of graduation are as follows:

	Passed.	Failed.
P. and S. of St. Louis	1-06	3-7.
Washington University, St. Louis	1-07	1-07.
American Med. College, St. Louis		2-07.
Amer. Col. of Med. and Surgery, Chicago		1-07.
Uni. Med. Col. Kansas City	1-07	2-07.
Uni. Col. of Medicine, Virginia	1-95	
Northwestern University	1-04	
Barnes University, St. Louis	1-07	2-07.
Uni. of Louisville	1-07	
Rush Medical College	1-06	
St. Louis University	2-07	

The Board also heard the evidence against Dr. O. A. Johnson and Dr. W. O. Bye, both charged with unprofessional and dishonorable conduct by advertising in a way that is unprofessional, dishonorable, misleading and calculated to deceive the public. The charges were sustained and their licenses were revoked. They have both since appealed from the decision of the Board to the Circuit Court of Jackson county.

Yours very truly,

J. A. B. ADCOCK, M. D.,
Secretary Missouri State Board of Health.

Editor of the Journal of the Missouri State Medical Association.

Dear Sir:—The Missouri State Sanatorium for Incipient Pulmonary Tuberculosis is now ready for the reception of patients. The Villa, the corner stone of which was laid August 15, 1906, is finished and completely furnished. It will accommodate about fifteen pa-

tients at present. The second Villa is in the course of erection and is to be finished by January 1, 1908. A third building, to be known as the Medical Wing of the Administration Building, will be started, it is hoped, in the course of a few weeks.

The law provides that two classes of patients shall be received here. These are known as free patients and private patients. Preference is given to the former. Private patients apply directly to the Sanatorium for admission. A list of applications is kept in the order of their receipt. Free patients apply through the county court or, if they reside in St. Louis, through the Auditor of the City, by affidavit, stating that they desire admission to the State Sanatorium and that they are unable to pay for their support and treatment while there. After investigation and finding the applicant to be worthy of charity, he is recommended by the Clerk, or the Auditor, as the case may be, for admission to the Sanatorium. When a vacancy occurs in the Sanatorium, the applicant whose name appears first on the list of free patients is referred to an examiner for examination. If acceptable he is sent to the Sanatorium by the county in which he resides. If he is not acceptable the individual whose name appears next on the list is referred to an examiner. In case there are no names on the free patient list, the one whose name appears first on the private list is referred to an examiner.

A good many letters have been received from persons who have tuberculosis. Only a few of these have made formal application; but there will be no trouble in filling the Sanatorium. In order that we may get the most favorable cases, it is necessary that the doctors in the State thoroughly understand the purpose of the institution, the class of cases that are acceptable according to the law and the method by which formal application is made.

The following, although intended for the guidance of the examining physicians, will be of assistance in deciding what cases may be considered acceptable.

INSTRUCTIONS FOR THE EXAMINING PHYSICIANS.

The law distinctly states that only incipient cases of pulmonary tuberculosis shall be received at the Sanatorium. In order that there be a common understanding of what is meant by an incipient case the following definitions are given: First will be described what is not an incipient case. A past-incipient case is one (1) which may have acute manifestations associated with fever and signs of progress; (2) which has distinct febrile reaction, weakness and other signs of toxemia after doing a small amount of work; (3) which may have an involvement greater than a half of one lobe; (4) which may have marked ulcerative processes with cavity formation; (5)

which may have laryngeal tuberculosis, as indicated by prolonged hoarseness; (6) which may have intestinal tuberculosis, with pain and diarrhoea; (7) which may have marked loss of weight.

An incipent case will be considered one in which there is no marked impairment of function, either local or constitutional, and in which the localized consolidation is moderate in extent, involving less than a half of one lobe, with little or no evidence of destruction of tissue or disseminated fibroid deposits; and in which there are no serious complications; and in which there is no rapid loss of weight; and in which expectoration is small in amount or absent, and in which the tubercle bacilli may be present or absent.

The examination blanks have been made out with considerable care in order that the records of the physical findings will be so complete as to leave little doubt as to which class the case shall be judged to belong. It is hoped that the examiner will record facts—other than those called for in the examination blanks—which will be of service in classifying the case. The blanks should be filled out in duplicate and, whether the case be suitable or unsuitable, one of the forms should be mailed to the Sanatorium in order that the reason for rejection or acceptance may always be available.

Should there be any doubt, at any time, on the part of the examiner in regard to anything pertaining to the examination or admission, the physician in charge will be glad to supply any information in his power.

The following physicians have been appointed Local Examiners. Other selections will be made from time to time:

Hannibal, Dr. A. J. Detweiler, Dr. J. J. Bourn; Palmyra, Dr. S. Sanford; New London, Dr. T. J. Downing; Aurora, Dr. J. B. Fleming; Ironton, Dr. I. A. Marshall; Bonne Terre, Dr. L. A. Anthony; Potosi, Dr. J. P. Townsend; Montgomery City, Dr. David O. Nowlin; Mexico, Dr. Edwin S. Cave; Joplin, Dr. L. I. Mathews; Memphis, Dr. E. E. Parish; Crane, Dr. D. M. Huffman; Neosho, Dr. E. M. Roseberry; Macon, Dr. A. B. Miller; Shelbina, Dr. J. D. Smith; Columbia, Dr. Woodson Moss; Milan, Dr. W. L. M. Witter; Cassville, Dr. S. A. Newman; Albany, Dr. G. W. Doyle; Bethany, Dr. F. H. Broyles; Desoto, Dr. A. H. Hamel; Poplar Bluff, Dr. J. J. Norwine; Charleston, Dr. A. W. Chapman; Cape Girardeau, Dr. J. D. Porterfield; Clinton, Dr. R. D. Haire; St. Louis, Dr. Wm. Englebach, Dr. L. M. Warfield, Dr. L. C. McElwee; Jefferson City, Dr. Gustave Ettmueller; Rolla, Dr. S. L. Baysinger; Kansas City, Dr. Walter M. Cross, Dr. E. W. Schauffler, Dr. Newton McVey; Springfield, Dr. J. E. Tefft, Dr

J. P. Ralston, Dr. W. M. Smith; St. Joseph, Dr. L. A. Tood, Dr. W. B. Deffenbaugh, Dr. C. H. Wallace.

Very truly yours.

O. H. Brown, M. D.,
Physician-in-Chief.

Fayette, Mo., Aug. 9, 1907.

Editor of Journal Missouri State Medical Association,

Dear Sir:—The Howard County Medical Society at its regular session, held August 2, 1907, organized a Society for the Prevention of Tuberculosis, to act and be subject to the Missouri Association.

The following members were selected, through the president and secretary, to meet September 6, 1907, at which time they will elect a president, secretary and executive board, and report to Dr. Wm. Porter, St. Louis: Dr. Paul C. Smith, Fayette; Dr. T. B. Fleet, New Franklin; Dr. J. Y. Hune, Armstrong; Dr. J. T. Wood, Harrisburg; Dr. C. F. Drake, Boonsboro; Dr. J. R. Champion, Hillsdale; Dr. W. R. Hawkins, Glasgow. Dr. U. S. Wright, ex-president of the Missouri State Medical Association, consented to act and confer with the members.

N. E. Smith, M. D., Pres.
C. W. Watts, M. D. Secy.

By order of the Society.

COUNTY SOCIETY NOTES

CALDWELL COUNTY MEDICAL SOCIETY.

The Caldwell County Medical Society met at Kingston, July 10th, with Dr. W. L. Lindley in the chair.

Two new members were elected and the following papers were read:

"Bronchitis," by Dr. R. W. Goins, Breckenridge. "Puerperal Eclampsia," by Dr. R. L. Mount, Polo. "Typhoid Fever," by Dr. W. S. Shouse, Kingston. "Acute Catarrhal Dysentery," by Dr. G. S. Dowell, Braymer.

Dr. B. F. Carr, of Polo, reported several cases of acute enlargement of the liver with excessive vomiting of bile. Dr. W. L. Lindley gave a report of what he observed in the Mayo Brothers' clinic at Rochester, Minn.

The society adjourned to meet at Breckenridge in October. —Tinsley Brown, M. D., Reporter.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY.

The Cape Girardeau County Medical Society held its regular monthly meeting at Cape Girardeau, August 2nd.

The program rendered was as follows:

"Treatment of Summer Diarrhea in Infants," by Dr. Wichterich.

"Puerperal Eclampsia: Etiology and Pathology," by Dr. Hays as Dr. Hays was absent, Dr. Vinyard gave an interesting talk.

"Treatment of Puerperal Eclampsia." Dr. Winters being sick, Dr. Wichterich volunteered to fill his place.

All present entered into the discussion of the subjects and the meeting proved to be profitable socially as well as instructive from a practical standpoint. Society adjourned to meet in Jackson, September 6th.—E. H. G. Wilson, Secretary.

CARTER-SHANNON COUNTY MEDICAL SOCIETY.

The Carter-Shannon County Medical Society met in regular session at Fremont, Mo., July 23rd. The routine work being disposed of, the following program was rendered: First a lecture on fractures of the femur by Dr. T. W. Cotton, with drawings, specimen bones, etc. The doctor also presented a case of fracture which he had treated a few months previously, in a boy 12 years of age, in which the femur had

been broken at upper third. A splendid result was secured in this case as no appreciable shortening was found by the members who measured the boy's legs. This subject was freely discussed by the doctors present, and many points of interest were brought out.

Dr. Chas A Wright read a paper entitled "A System of Co-Operative Collection," which contained many points of interest regarding the making collections, especially dealing with the idea of an understanding among the doctors in any one community, as to co-operating along this line. The paper was interesting and freely discussed.

A paper by Druggist, J. T. Loyd, comparing the strength of medicines that are affected by the last revision of the U. S. Pharmacopoeia with those of the old, was read and discussed with interest.

The meeting was one of the most interesting in the history of the society, and the attendance was better than usual.—J. A. Chilton, M. D., Reporter.

HARRISON COUNTY MEDICAL SOCIETY.

The Harrison County Medical Society met in regular session in Bethany on July 23rd. The meeting was held in the Circuit Court room. Although the attendance was not large, the meeting was an excellent one. Papers were read by Dr. C. A. Mitchell, of Blythedale, and Dr. W. H. Wiley of Ridgeway. The subject of Dr. Mitchell's paper was "The Value of the Opsonic Index in the Diagnosis of Tuberculosis." The subject of Dr. Wiley's paper was "Tuberculosis; Treatment, Prevention and General Sanitation." These papers showed the writers had given their subjects much thought and were freely discussed by the members present.

Hon. J. C. Wilson was present and made a splendid address along the line of sanitation. He took occasion to criticise the medical profession along certain lines, but made us feel good by congratulating us on the good work being done by the profession.

Dr. Beatie of Kansas City was present and made a nice talk.

Dr. W. R. Delong, of Andover, was elected to membership in the society.

The next regular meeting of the society will be in October. A general invitation will be extended to the public to attend this meeting. The subjects of the papers to be read at that meeting are to be along the line of sanitation. This is a subject of vital importance, and one every good citizen ought to be interested in.—F. H. Broyles, M. D., Secretary.

HOWARD COUNTY MEDICAL SOCIETY.

The Howard County Medical Society met at Fayette, August 2nd.

The following were present: Drs., Lee, Moore, McGee, Lewis, P. C. Smith, N. E. Smith, Richards, Wright, Burgwin and Watts.

Clinical cases of tuberculosis of the epiglottis, obstetrical, typhoid, and hiccough. The cases were discussed by all present and were found very interesting and instructive. The doctors differed in some cases as to treatment but all agreed as to good nursing, etc.

In compliance with request of State Medical Society and of the State Board of Health, the Howard County Medical Society by vote requested that the president and secretary appoint seven of its members to constitute a County Tuberculosis Society and report same to the State Medical Journal, this County Society of Tuberculosis to act with the State Society for the Relief of Tuberculosis and with the State Board of Health. As Dr. U. S. Wright had been elected delegate to the United States Tuberculosis Society at a meeting a year ago, he was requested to act and counsel with the County Society. The secretary agreed to act as secretary of the County Tuberculosis Society until it met at Fayette, Friday, September 6, 1907, when officers would be elected. The president, being an executive official member by reason of his office as president of the Howard County Medical Society, would act with the said society when requested. Members appointed by request of the society were as follows: Drs. Paul C. Smith, Fayette; Q. V. Bonham, New Franklin; T. B. Fleet, New Franklin; J. Y. Hume, Armstrong; W. R. Hawkins, Glasgow; J. T. Wood, Harrisburg; J. R. Champion, Hilldale; C. F. Drake, Boonsboro. These are to meet and elect a president, vice president, secretary and executive committee at our next regular meeting, Friday September 6th, 1907.

Dr. W. Scott Thompson, by reason of his membership in the State Board of Health is recognized with said society. Not being present, Dr. Thompson was not consulted, but the committee of appointment request his acting with his county society when they meet.

After the organization and election in September, 1907, they will report their action to Dr. William Porter, of St. Louis, who has taken such an active part in the State Society for the Relief of Tuberculosis.

The Society had a very interesting and profitable session and by unanimous vote refused to entertain Dr. Watts' request of resignation as secretary and reporter for the society until its annual election, November, 1907, for officers for 1908.

The society adjourned, good feeling, peace and harmony prevailing.—C. W. Watts, M. D., Reporter.

KNOX COUNTY MEDICAL SOCIETY.

A meeting of the Knox County Medical Society was held at Edina, on July 1st, 1907, with Dr. L. T. Brown in the chair.

The scientific program consisted of a symposium on abortion consisting of the following papers:

"The Medical Aspect of Abortion," by Dr. J. R. Northcutt, of Knox City.

"The Legal Aspect of Abortion," by the Hon. O. D. Jones, Edina, Mo.

"The Moral Aspect of Abortion," by the Rev. Father C. E. Byrne, Edina.

All these papers were freely discussed by the gentlemen present. The audience was made up of physicians, lawyers and preachers. -H. JURGENS, M. D., Secretary.

LINN COUNTY MEDICAL SOCIETY.

The regular quarterly meeting of the Linn County Medical Society was held in Linneus, Tuesday evening, August 27th. The following papers were read:

By Dr. W. H. Musgrove. Subject: "Pertussis."

By Dr. Kathryn V. Standly. Subject: "Water as a Therapeutic Agent."

By Dr. D. F. Howard. Subject: "Suppurative Inflammation of the Mammae."

A full report will appear in our next issue.—F. W. BURKE, M. D., Secretary.

SALINE COUNTY MEDICAL SOCIETY.

The meeting was called to order at 11 o'clock, August 13th, 1907, in the county court room.

The committee on credentials and membership recommened Dr. Ringen, of Sweet Springs, for membership, and he was unanimously elected.

The Chair appointed Drs. Howard Hall and Jarvis, a committee of three, to select the subject for discussion at the next meeting and to nominate some one to open discussion.

Dr. J. S. Harrison was proposed for membership, and then the meeting adjourned for dinner.

On reconvening at 1:30, Dr. D. S. Gore read a paper on "The Physician's Duty as a Citizen." This was followed by a paper by Dr. J. E. Harris upon the same subject. A general discussion followed.

Dr. Howard moved that the two papers read be published in the county papers. Seconded and carried. Moved and seconded that the next meeting be a public meeting and that these two papers be read before this open meeting; also that a paper on tuberculosis be read at that time. Carried. The chair appointed the secretary, Dr. D. C. Gore, J. E. Harris and F. H. Howard as a committee to select the time and place for this meeting. Dr. Howard was selected to read the paper on tuberculosis.—A. E. GORE, M. D., Secretary.

SCOTT COUNTY MEDICAL SOCIETY.

Scott County Medical Society met in the rooms of the Pastime Club at Sikeston, July 1st. Members present: Drs. Sparks, Ogilvie, Wescoat, Haw, Rodenmeyer, Tomlinson, McCable, Lucas, Yount, Milem, Miller, T. R. Frazer, Hutton.

A committee was appointed to draw up a schedule of fees to be adopted by society. On motion adjourned for dinner.

AFTERNOON SESSION.

The following papers were read: "Opsonic Index," by Dr. Sparks. Duscussed by Drs. Haw and Hutton.

"Tonsillitis; its Significance," by Dr. Yount. Discussed by Drs. Wescoat, Tomlinson, Sparks.

"The Miscroscope and Medicine," by Dr. T. R. Frazer. Discussed by Drs. Sparks and Hutton.

"Quinine and Iron in Pneumonia," by Dr. McCabe. Discussed by the members generally.

"The Condition of the Pupil as an Aid in Diagnosis in Cases of Coma." by Dr. Lucas. Discussed by Dr. Wescoat.

"Typhoid Fever," by Dr. Haw. "Treatment of Typhoid," by Dr. Miller. A general discussion followed the reading of these two papers.

Several good papers could not be heard on account of lack of time.

The report of the committee on schedule of prices was tabled until the next meeting.

Adjourned to meet at Chaffee on the first Monday in October.—W. S. Hutton, M. D., Secretary.

WEBSTER COUNTY MEDICAL SOCIETY.

The Webster County Medical Society met in Marshfield, July 24th, with the following doctors present: M. Highfill, W. R. Beatie, I. S. Florence, J. I. Kilburn, J. R. Matt, W. H. Bollinger, E. Trimble, T. S. Bruton, E. M. Bailey and E. James.

The regular routine business was transacted, a constitution and by-laws adopted and the matter of looking after the illegal practitioners was discussed. The secretary was instructed to write all such and request them to comply with the law.

Under scientific communications Dr. I. S. Florence reported two cases of poisoning by eating boiled ham. The cases looked very much like arsenical poisoning.

Dr. Beatie read a paper entitled "Endocolitis," which was discussed by nearly all present.

There are seventeen regular qualified doctors in our country and twelve are members of our society. We are sure that by the next meeting we will have every practitioner in the country who is eligible for membership. You will hear from us again.—W. R. Beatie, M. D., Reporter.

ARTICLES APPROVED BY THE COUNCIL ON PHARMACY AND CHEMISTRY.

BROMIPIN.

A bromine addition product of sesame oil, containing 10 per cent of bromine in organic combination.

Actions and Uses.—Bromipin acts like the bromides, but as it yields its bromine more slowly it is thought to have less tendency to produce brominism. The combination is not broken up in the stomach, but a portion of the bromine is split off as soon as the oil enters the intestine. The oil with the remaining bromine is easily absorbed, and, similarly to other fats, is largely deposited in the tissues, where it is slowly split up. It is said to be more lasting in its action than the bromides. Dosage.—4 Cc. (1 fluidram), increased in cases of epilepsy to from 8 to 32 Cc. (2 to 8 fluidrams), in emulsion with peppermint water and syrup, or pure, flavored with oil of peppermint. Manufactured by E. Merck, Darmstadt. (Merck & Co., New York).

BROMIPIN—33 1-3 PER CENT.

A 33 1-3 per cent. brominized sesame oil. Manufactured by E. Merck, Darmstadt. (Merck & Co., New York).

BUTYL-CHLORAL HYDRATE.

Actions and Uses.—Its action is similar to that of chloral, except that it is said to be less depressing and more analgetic. It has been especially recommended for facial neuralgia. Dosage.—0.3 to 1.3 Gm. (5 to 20 grains).

CALCIUM ICHTHYOL.

A derivative of ichthyol in which calcium is substituted for ammonium. Manufactured by the Ichthyol Co., Hamburg. (Merck & Co., New York).

CALOMELOL.

A soluble colloidal form of calomel, containing albuminoids.

Actions and Uses.—Its action is the same as that of calomel, but it is claimed to be superior because of its solubility in water, acting more rapidly and efficiently. Calomelol is claimed to be non-irritant and particularly non-toxic. The indications for its use are the same as for calomel. Dosage.—Internally the same as calomel. Externally it is used as a dusting powder, mixed with an equal quantity of starch or of a mixture of starch and zinc oxide, or in the form of calomelol ointment. It should be guarded from the light. Manufactured by the Heyden Chemical Works, New York.

CALOMELOL OINTMENT.

Actions and Uses.—It is a substitute for mercurial ointment, over which it has the advantage of cleanliness, and it is claimed to be distinctly superior as an inunction in syphilis, etc. Dosage.—6 Gm. (90 grains) daily for inunction in syphilis. Manufactured by the Heyden Chemical Works, New York.

CASCARA EVACUANT.

A preparation said to contain a bitterless glucoside, obtained from the bark of *Rhamnus purchiana*, with aromatics.

Actions and Uses.—It is claimed that this preparation possesses the laxative properties of cascara sagrada without the bitterness which characterizes the ordinary extract. It is recommended for the treatment of chronic constipation, for which cascara sagrada is one of the best medicinal agents. Dosage.—As a laxative, 0.6 to 1 Cc. (10 to 15 minims) three times a day; as a purgative, 1.3 to 2 Cc. (20 to 30 minims) morning and evening. 4 Cc. (1 fluidram) may be given in obstinate cases. Prepared by Parke, Davis & Co., Detroit, Mich.

CASCARA TONIC LAXATIVE GLOBULES.

Each globule is said to contain 0.2 Gm. (3 grains) of the bitter glucosides of *Rhamnus purshiana* suspended in a bland fixed oil, to which aromatics have been added.

Actions and Uses.—The manufacturers claim that it combines the laxative action of cascara with tonic properties of the bitter principle with the advantage of concealment of the disagreeable taste. Dosage.—One or two globules to be taken before retiring. Prepared by Parke, Davis & Co., Detroit, Mich.

CHINAPHENIN.

Chinaphenin, $CO(NH.C_6H_4OC_2H_5)(C_{20}H_{23}N_2O_2)=C_{29}H_{33}N_3O_4$, the quinine carbonic acid ester of phenetidin.

Actions and Uses.—Chinaphenin combines the antiperiodic properties of quinine with the analgesic power of phenacetin, with the advantage of tastelessness and asserted freedom from symptoms of cinchonism produced by the administration of the two remedies in simple mixture. It is recommended in febrile diseases, especially la grippe; in spasmodic conditions, such as whooping-cough; in certain forms of malaria and in neuralgia. Dosage.—Adult: 0.3 to 0.6 Gm. (5 to 10 grains) ordinarily, 1.5 to 2 Gm. (22 to 30 grains), given in two doses as an antipyretic in neuralgia and malaria; in whooping-cough, 0.13 to 0.3 Gm. (2 to 5 grains), according to age. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chimical Co., New York).

CHLORBUTANOL.

Chlorbutanol, 1,1,1-trichlor-2-methyl-propan-2-ol, $CCl_3C(OH)(CH_3).CH_3=C_4H_7OCl_3$, produced by the reaction of acetone on chloroform.

Actions and Uses.—It is said to be absorbed unchanged, but to be decomposed in the body. It is a local anesthetic with an action weaker than that of cocaine, but sufficient to prevent vomiting from gastric irritation. Its antiseptic action is said to be fifteen times as strong as that of boric acid. It acts on the central nervous system similarly to chloral, and although the claim has been made that hypnotic doses are without effect on the circulation and respiration, independent observers have described a fall of blood pressure and interference with respiration in animals, and consider it fully as dangerous as chloral. In man 100 grains caused severe symptoms, but recovery occurred. It is claimed that no habit is induced, but this may be referable to its restricted employment. It is recommended as a mild local anesthetic, in dentistry, etc., as a preservative for hypodermic solutions, for insomnia, vomiting and for spasmodic conditions. It is also said to be useful as introductory to general anesthesia, lessening excitement and nausea. Dosage.—The dose is from 0.3 to 1.5 Gm. (5 to 20 grains) dry or in capsules. Hypodermically as a local anesthetic a saturated aqueous solution may be used.

CHLORETONE.

A name applied to chlorbutanol, which see. Manufactured by Parke, Davis & Co., Detroit, Mich.

CHLORETONE INHALANT.

A solution of chloretone, camphor, menthol and oil of cinnamon in liquid petrolatum.

Actions and Uses.—An anodyne, antiseptic, and emolient solution for use by inhalation as a very fine spray or nebula. Manufactured by Parke, Davis & Co., Detroit, Mich.

CREOSOTAL.

A mixture of carbonic acid esters, analogous to guaiacol carbonate, prepared from creosote.

Action and Uses.—Creosotal has the same action as creosote, but is claimed to be non-toxic and devoid of irritant properties. It is recommended as a substitute for creosote for internal exhibtion in tuberculosis, pneumonia, and as an intestinal antiseptic. Dosage.—From 0.3 to 2.0 Gm. (5 to 30 grains) for children, to 1 to 4 Gm. (15 to 60 grains) for adults in milk, coffee, wine, cod-liver oil or emulsion. Externally it may be applied undiluted. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York). Fabrik von Heyden, Radebeul, near Dresden.

DENTALONE.

A 30 per. cent. solution of chloretone in a mixture of oils of gaultheria, cloves and cassia.

Actions and Uses.—Dentalone possesses pronounced anesthetic properties and is intended for use by dentists in the treatment of exposed nerves in decayed teeth. Prepared by Parke, Davis & Co., Detroit, Mich.

DERMATOL.

A name applied to Bismuthi Subgallas, U. S. P. Manufactured by Meister, Lucius & Bruening, Hoechst a. M. (Victor Koechl & Co., New York).

DIABETIN.

A pure, crystallized fructose (levulose), $CH_2OH.CHOH.CHOH.CHOH.CO.CH_2OH = C_6H_{12}O_6$, absolutely free from dextrose (ordinary glucose).

Actions and Uses.—Levulose is metabolized in the body by other agencies than those that act on dextrose and most of the other sugars and appears to be more completely utilized by the diabetic organism than the other sugars. It is recommended for the nutrition and for sweetening the food and drink of diabetics, in pulmonary tuberculosis, infantile malnutrition and marasmus. Dosage.—It is given in diabetes in daily quantities of 30 to 60 Gm. (1 to 2 ounces); in grave forms of the disease the amount is reduced to from 12 to 24 Gm. (3 to 6 drams) daily. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

DIONIN.

Dionin, $C_{17}H_{17}NO\ (OH)\ (OC_2H_5)\ HCl + H_2O = (C_{19}H_{21}O_3ClN + H_2O)$, the hydrochloride of the ethyl ester of morphine.

Actions and Uses.—It is claimed that this compound acts like morphine without producing constipation, nausea or lassitude. It is the conclusion of some good observers that it possesses no advantage over codeine. Applied to the eye, it causes a local vasodilation, leading to acute conjunctival edema. Dionin is recommended to relieve pain, especially in respiratory affections, as an antispasmodic in whooping cough, for insomnia and externally in the treatment of corneal affections, conjunctivitis, iritis, etc. Dosage.—0.015 to

0.06 Gm. (¼ to 1 grain). Externally it is applied in 10 to 20 per cent. solutions. Manufactured by E. Merck. Darmstadt. (Merck & Co., New York).

DIURETIN.

A name applied to theobromine-sodium salicylate, which see. Manufactured by Knoll & Co., Ludwigshafen, Germany (E. Merck & Co., New York).

DUOTAL.

A name applied to Guaiacolis Carbonas, U. S. P. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

DUOTONOL.

A name applied to a mixture of equal parts of calcium tonol and sodium tonol. (See Tonols.)

Actions and Uses and Dosage.—See Glycerophosphates. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

ELIXIR EUPNEIN.

A preparation said to contain in each dose of 8 C.c., (2 fluidrams): heroin 0.0026 Gm. (1-24 grain), terpin hydrate 0.13 Gm. (2 grains), creosote 0.3 Gm. (5 grains), in a menstruum containing 30 per cent. of alcohol with glycerin and aromatic essential oils.

Actions and Uses.—From its composition it appears to be well adapted to use in chronic cough from bronchitis, etc. Dosage.—4 to 12 Cc. (1 to 3 fluidrams). Prepared by Schieffelin & Co., New York.

ELIXIR SAW PALMETTO.

An elixir of saw palmetto berries, sandal wood and cornsilk.

Actions and Uses.—The constituents of this preparation are credited with diuretic properties and believed to be sedative to the genitourinary tract and to exert a curative action on the inflamed mucous membrane, especially in chronic cases. Dosage.—4 to 16 Cc. (1 to 4 fluidrams) three times a day. Prepared by Parke, Davis & Co., Detroit, Mich.

EMPYROFORM.

A condensation product of birch tar and formaldehyde.

Actions and Uses.—Empyroform is an antipuritic, sedative and desiccant. It is said to be superior to tar and free from irritant or toxic effects. It is claimed to be useful in all stages of eczema, psoriasis, lichen, urticaria, prurigo, pityriasis, etc. Dosage.—It is applied as a 5 to 10 per cent. ointment, 10 to 20 per cent. zinc paste, 10 to 20 per cent. tincture, and 37.5 per cent. suspension. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

EPICARIN.

Epicarin, $C_6H_3(OH)(COOH)(CH_2C_{10}H_6OH)2:3:1=C_{19}H_{14}O_4$, *B*-naphthol-hydroxy-toluic acid.

Actions and Uses.—Epicarin is a non-poisonous antiseptic and parasiticide. Administered internally, it is excreted mostly undecomposed. It has been found useful in the treatment of skin diseases, particularly scabies, tinea tonsurans, prurigo and certain forms of eczema. Dosage.—It is used externally only in the form of 5 to 20 per cent. ointment, with petrolatum or wool fat (lanolin) as base, or in the form of oily or alcoholic solutions (10 per cent.). Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

ERYTHROL TETRANITRATE.

Erythrol tetranitrate, $C_4H_6(NO_3)_4$=$C_4H_6O_{12}N_4$, the tetranitrate of erythrite or butane-tetrol, $C_4H_6(OH)_4$.

Actions and Uses.—It is a vasodilator and antispasmodic, like nitroglycerin. Its action is slower and more lasting; it begins in 15 minutes and persists for three or four hours. It is recommended in angina pectoris and cardiac diseases. It is reported as especially useful as a prophylactic in preventing anginal pain. Dosage.—Because of its explosiveness it is marketed in the form of tablets, each containing 0.03 Gm. (½ grain). One or two tablets every four to six hours. Manufactured by E. Merck, Darmstadt (Merck & Co., New York).

ETHYLENEDIAMINE.

Ethylenediamine, $C_2H_4(NH_2)_2$, a substitution compound of ethylene and ammonia.

Actions and Uses.—It is said to be non-corrosive. It is recommended as an albumin solvent for the solution of false membranes in diphtheria and similar affections of the mucous membranes. It is recommended for use in the form of kresamine (which see). Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

EUCAINE.

The "Eucaines" are two closely allied synthetic bases, which were originally differentiated as eucaine "A" and eucaine "B," but are now designated as "Alpha-eucaine" and "Beta-eucaine," respectively, alpha-eucaine being a synthetic derivative of triacetonamine, while beta-eucaine is a synthetic derivative of vinyl-diacetonekalmine. Both of these bases are supplied as hydrochlorides and are recommended as substitutes for cocaine, over which they are claimed to have certain advantages. They are described under alpha-eucaine hydrochloride and beta-eucaine hydrochloride.

EUCALOIDS.

Gelatine capsules, each containing 0.3 Cc. (5 minims) of pure oil of eucalyptus.

Dosage.—1 to 2 globules three or four times a day. Prepared by Edward G. Binz, Los Angeles, Cal.

EUCAMUL.

An emulsion of oil of eucalyptus in glycerin and honey, containing 0.13 Cc. (2 minims) of the eucalyptus oil in 4 Cc. (1 fluidram).

Dosage.—2 to 4 Cc. (½ to 1 fluidram), as needed. Prepared by Edward G. Binz, Los Angeles, Cal.

EUGALLOL.

A solution consisting of two parts of monacetylpyrogallol, $C_6H_3(OH)_2(CH_3COO)$, and one part of acetone.

Actions and Uses.—Eugallol acts as an energetic substitute for pyrogallol, but is liable to produce local irritation when applied to the skin. Dosage.—It is applied pure by pencilling once a day, covering the painted part with powdered zinc oxide, suspending the application a few days if it is followed by irritation. Manufactured by Knoll & Co., Ludwigshafen a. Rh. and New York.

EUMYDRIN.

Eumydrin $C_6H_5(HO.CH_2)\ CH.\ CO_2C_7H_{11}N(CH_3)_2NO_3$=$C_{17}H_{27}O_6N_2$, the nitrate of methylated atropine.

Actions and Uses.—Eumydrin is a mydriatic and antihydrotic, replacing atropine sulphate both internally and externally in corresponding doses. It is claimed that it dilates the pupil more rapidly than atropine and the dilatation is of shorter duration—being intermediate in these respects between atropine and homatropine. It is said to be much less toxic than atropine, so that larger doses may be given to secure the effect. It is particularly recommended for the treatment of night sweats, whooping cough and the relief of enuresis. Dosage.—Internally as an antihydrotic, 0.001 to 0.0025 Gm. (1-60 to 1-24 grain). Externally as mydriatic, in solutions about one-tenth stronger than the usual atropine solutions. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

EUPHORIN.

Euphorin, $CO(HN.C_6H_5)(OC_2H_5)=C_9H_{11}O_2N$, a compound closely allied to Ethylis Carbamas, U. S. P. (urethane) and differing from this by the replacement of the group NH_2 by NHC_6H_5.

Actions and Uses.—Euphorin is anodyne, antipyretic and antiseptic. It is recommended in rheumatism, sciatica, headache, etc. Externally it is recommended to be applied as a dusting powder in veneral and skin diseases, ulcers, burns, etc. Dosage.—0.5 to 1 Gm. (8 to 15 grains) dissolved in wine or suspended in water; externally in powder, in lanolin ointment and in superfatted soap. Manufactured by Fabrik von Heyden, Radebeul near Dresden.

EUPHTHALMIN.

Euphthalmin, $C_{17}H_{25}NO_3HCl$, a mandelic acid derivative of beta-eucaine.

Actions and Uses.—Euphthalmin produces prompt mydriasis free from anesthetic action, pain, corneal irritation, or rise in arterial tension. It has little or no effect on accommodation, and this disappears more rapidly than with atropine, cocaine, homatropine, etc. In its effects on the general system, euphthalmin very closely resembles atropine. Dosage.—2 or 3 drops of a 5 to 10 per cent. solution, according to age of the patient and the nature of the case, are instilled into the eye. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

EUQUININE.

Euquinine, $C_2H_5O.CO.OC_{20}H_{23}N_2=C_{23}H_{28}O_3N_2$, quinine ethyl carbonic acid ester.

Actions and Uses.—Equinine is claimed to have the same action as quinine with the advantage of being tasteless, owing to its insolubility in water and alkaline media. Dosage.—The same as quinine. Manufactured by Vereingte Chininfabriken, Zimmer & Co., Frankfort a. M. (Merck & Co., New York).

EURESOL.

Euresol, $C_6H_4(OH)(CH_3COO)=C_8H_8O_3$, an acetic acid ester of resorcinol (1,3-phen-diol).

Actions and Uses.—Its action is similar to that of resorcinol, but milder and more lasting because of the gradual liberation of the phenol. Dosage.—It is applied in 5 to 20 per cent. ointments and in acetone solution. Manufactured by Knoll & Co., Ludwigshafen a. Rh. and New York.

EURESOL SOAP.

A soft soap, supplied in tubes, containing euresol, eucalyptol and oil of turpentine. Prepared by Knoll & Co., Ludwigshafen and New York.

EUROPHEN.

Europhen, $C_6H_2(C_4H_9)(CH_3)(OI).C_6H_2(CH_3)(:O)(.C_4H_9) = C_{22}H_{29}O_2I$, a condensation product of molecules of isobutylorthocresol, with 1 atom of iodine, analogous to Thymolis Iodidum, U. S. P.

Actions and Uses.—Its action is similar to that of iodoform and thymol iodide. It is claimed especially to be useful in the treatment of venereal ulcerations. Dosage.—Europhen may be given internally in the form of pills in doses of from 0.2 to 0.3 Gm. (3 to 5 grains). Locally it may be used as a dusting powder in substance or mixed with an equal quantity of finely powdered boric acid, as an ointment, with wool fat (lanolin), or as a 5 per cent. embrocation, dissolved in olive oil. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

FERRICHTHYOL.

A derivative of ichthyol in which about 2.5 per cent. of iron is contained.

Actions and Uses.—It is said to be alterative, antiseptic, hematinic and tonic. It is recommended in anemia, chlorosis, etc. Dosage.—1 to 2 Gm. (15 to 30 grains) in tablets. Manufactured by the Ichthyol Co., Hamburg (Merck & Co., New York.)

FERRIPYRINE.

A name applied to a product identical with Ferropyrine, which see. Manufactured by Fargwerke, vorm. Meister, Lucius & Bruening, Hochst. a. M. (Victor Koechl & Co., New York).

FERROPYRINE.

Ferropyrine, $(C_{11}H_{12}N_2O)_3.(FeCl_3)_2$, a compound of antipyrine and ferric chloride, containing about 36 per cent. of ferric chloride and 64 per cent. of antipyrine. Actions and Uses. It is hematinic, hemostatic astringent, analgesic and tonic. It styptic action is pronounced and said not to be accompanied by irritant effects. According to Fraenkel, it combines with its hemostatic properties the injurious by-actions which limit the application of ferric chloride as a hemostatic. Dosage.—0.3 to 1 Gm. (5 to 15 grains) in powder, with sugar and peppermint, or in solution. Externally 1 to 15 per cent. solution as injection, to 20 per cent. solution or pure for hemorrhages. Manufactured by Knoll & Co., Ludwigshafen.

FORMALIN.

A name applied to Liquor Formaldehydi, U. S. P. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin. (Schering & Glatz, New York).

FORMIN.

A name applied to Hexamethylenamine, U. S. P. Manufactured by E. Merck, Darmstadt. (Merck & Co., New York).

GALLOGEN.

Gallogen, $C_6H(OH)_2 \quad C_6(OH)_2COOH = C_{15}H_6O_9$, anhydrous ellagic acid prepared from Divi-divi, the pods of *Caesalpina coriaria*, containing more than 50 per cent. of tannin.

Actions and Uses. Gallogen is an astringent and antidiarrheic, slowly decomposed in the intestinal tract, thus exerting its astringent action gradually during its passage. It has been recommended in dysentery, cholera infantum, diarrhea, and is said to be useful even in those of a syphilitic or tuberculous

origin. Dosage—0.3 to 0.5 Gm. (5 to 8 grains) for children; 0.6 to 1 Gm. (10 to 15 grains) for adults, suspended in neutral or slightly acid media. Manufactured by Ad. Heinemann, Eberswalde (C. Bischoff & Co., New York).

GERMICIDAL SOAP.

A solid product containing 2 per cent. of mercuric iodide in combination with hard soap.

Actions and Uses.—It is claimed to be a disinfectant which does not coagulate albumin nor corrode steel or nickel. It is recommended for the disinfection of the hands and for washing out infected cavities. Dosage—Applied externally, dissolved in water. A mild form is also prepared containing 1 per cent. of mercuric iodide; also a soft soap containing 1 per cent. of mercuric iodide. Prepared by Parke, Davis & Co., Detroit, Mich.

GLUTOL-SCHLEICH.

A chemical combination of gelatin and formaldehyde.

Action and Uses.—It is claimed that while in itself non-aseptic, non-irritant and non-toxic, it becomes antiseptic and bactericidal in contact with living cells, in consequence of the elimination of nascent formaldehyde, which is split off very slowly but steadily. Dosage.—It is employed undiluted as a dusting powder, etc. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

GLYCERIN EMOLLIENT.

A mixture containing: Oil of gaultheria, 2 Gm. (30 grains), boric acid, 23 Gm. (¾ ounce) corn starch, 88 Gm. (3 ounces), glycerin 885 Gm. (28.5 ounces), tragacanth, 17 Gm. (263 grains).

Actions and Uses.—It is intended for use as lubricant in gynecologic and surgical practice. Dosage.—It is put up in collapsible tubes and it to be applied to the dry skin. After use it can be washed off in a stream of water. Prepared by Parke, Davis & Co., Detroit, Mich.

GLYCEROPHOSPHATES.

The salts of glycerophosphoric acid, $H_2(CH_2OH.CHOH.CH_2)PO_4$; usually the two remaining hydrogen atoms of phosphoric acid are replaced by the base: $Na_2(CH_2OH.CHOH.CH_2)PO$.

Actions and Uses.—These salts were introduced as "nerve foods" and tonics on the theory that their phosphorus, being a step nearer lecithin, is assimilated more readily than that of hypophosphites. Neither the experimental nor the clinical evidence is considered conclusive by all authorities. Dosage.—The potassium and sodium salts may be given hypodermically 0.2 to 0.25 Gm. (3 to 4 grains) in normal saline solution, or *per os* 0.25 to 0.65 Gm. (4 to 10 grains) in water or syrup. The calcium, iron, lithium, magnesium and manganese salts 0.2 to 0.65 Gm. (3 to 10 grains) doses, preferably in the form of tablets; the quinin salt in 0.1 to 0.33 Gm. (1½ to 5 grains), and the strychnine salt in 0.001 to 0.003 Gm. (1-60 to 1-20 grain) doses.

BOOK REVIEWS

THE PRACTICAL MEDICINE SERIES. Vol. 2. General Surgery. Edited by J. B. Murphy, A. M., M. D. The Year Book Co., Publishers, 40 Dearborn Street, Chicago.

This volume is a review of the literature of general surgery for the past year. In it one finds references to nearly every important advance made in surgery during this time. The present volume contains nearly six hundred pages and should prove useful to the surgeon as well as the practitioner.

HOWARD HILL.

THE CARE OF THE BABY. By J. P. Crozer Griffith, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. *Fourth Revised Edition.* 12mo of 455 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1907. Cloth, $1.50 net.

The fourth edition of Griffith's Care of the Baby is an improvement over the others and the many new illustrations add materially to the volume. The subject generally is treated from an ideal standpoint, which makes a large part of it impossible of application, on account of the expense. But ideals are necessary in medicine if we would get the best results, more particularly in dealing with infants and children where a large range is oftentimes necessary.

We are particularly glad to note that the very prevalent ideas concerning "maternal impressions" are exploded. In fact, students of our text books on obstetrics would do well to read the chapter on "Before the Baby Comes."

There are many other excellent points in the book, but generally considered it is quite beyond the comprehension of the majority of mothers. Still there is much that they can understand and they are so constantly advised not to assume responsibility, but to call in a physician that even to them it is of great value. The addition of the appendix on infant feeding greatly strengthens the book.

Taken as a whole this greatly improved new edition will fill a much needed want, not only with nurses but to a large extent with mothers as well.

J. E. HUNT.

PHYSICAL DIAGNOSIS. With Case Examples of the Inductive Method. By Howard S. Anders, A. M., M. D. Professor of Physical Diagnosis, Medico-Chirurgical College, Philadelphia; etc., etc. With 88 illustrations in the text and 32 plates. New York and London, D. Appleton and Co. 1907.

In our age of chemical and microscopical diagnosis, both student and practitioner are altogether too much inclined to disregard the

value of a careful physical examination. It is obvious that we have no right to neglect any one procedure which would enable us to arrive at a correct diagnosis, and for practical purposes, the physical examination, which does not require any complicated and cumbersome apparatus, should remain the one procedure of prime importance. In a most interesting and attractive manner the author presents in this volume the so-called inductive method which, better than any other, will counteract that superficial and hasty zeal of the average student to get at the physical signs and the diagnosis somehow, but without patient and methodic practice.

A Manual of Personal Hygiene: Proper Living upon a Physiologic Basis. By Eminent Specialists. Edited by Walter L. Pyle, M. D., Assistant Surgeon to the Wills Eye Hospital, Philadelphia. *Third Revised Edition.* 12mo of 451 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1907. Cloth, $1.50 net.

The manual sets forth the best means of developing and maintaining physical and mental vigor. Throughout the book one finds a concise but adequate discussion of the anatomy and physiology of the parts under consideration. In response to a growing demand this valuable manual has been revised and now appears with many new additions in its third edition.

Diagnostics of Diseases of Children. By LeGrand Kerr, M. D., Professor of Diseases of Children at the Brooklyn Postgraduate Medical School. Octavo of 542 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1907. Cloth, $5.00 net; Half Morocco, $6.50 net.

This work differs from all others on the diagnosis of children in that objective symptoms are particularly emphasized. The author believes that as the objective symptoms are the main source of information in diagnosing children's diseases the subject should be discussed with these symptoms as the foundation. The illustrations are good and add greatly to the value of this volume.

The Principles and Practice of Dermatology. Designed for Students and Practitioners. By William Allen Pusey, A. M., M.D. Professor of Dermatology in the University of Illinois, etc., etc. With one colored plate and 367 text illustrations. New York and London, D. Appleton and Co. 1907. Price: Cloth, $6.00.

The author recognizes the fact that it is highly desirable in any study to be thoroughly acquainted with the fundamental knowledge of the subject in order to obtain a satisfactory grasp of the special diseases. He, therefore, has given considerable space to the principles of dermatology, to the anatomy and physiology of the skin, general etiology, pathology, symptomatology and treatment of the diseases of the skin.

DISEASES OF THE LUNGS. By Robert H. Babcock, A. M., M. D., Author of "Diseases of the Heart and Arterial System"; formerly professor of clinical medicine and diseases of the chest, Illinois State University. With 12 colored plates and 104 text illustrations; 809 pages; cloth, $6 net. D. Appleton & Co., New York, 1907.

This work is a companion volume to that upon the diseases of the heart, published a short time ago. It is one of the most exhaustive and yet comprehensive works on this subject extant. We believe it will prove instructive and helpful to every student and practitioner.

PRACTICAL DERMATOLOGY. A Condensed Manual of Diseases of the Skin. By Bernard Wolff, M. D. Clinical Professor of Diseases of the Skin in the Atlanta College of Physicians and Surgeons; Editor of the Atlanta Journal-Record of Medicine; Ex-President of the Atlanta (Fulton County) Society of Medicine; Ex-Secretary of the Georgia State Commission on Tuberculosis, etc. With 115 illustrations, 266 pages. Published by Cleveland Press, Chicago, Ill. 1906.

This is a practical age and the work of Dr. Wolff is a practical work which will fulfill the mission intended. The specialist as well as the general practitioner will find this volume a desirable aid in daily practice.

MODERN SURGERY—General and Operative. By J. Chalmers DaCosta, M. D., Professor of the Principles of Surgery and of Clinical Surgery in the Jefferson Medical College, Philadelphia. Fifth Revised Edition. Enlarged and reset. Octavo volume of 1283 pages, with 872 illustrations, some in colors. 1907. W. B. Saunders Co. Philadelphia and London.

In this the fifth edition of this work every chapter has been carefully revised, and much new matter incorporated in the text; many recent advances in surgery have been noted. Especially good is chapter 18 which deals with the heart and blood vessels. The author has devoted 19 pages to the consideration of hemorrhage and hemostatic agents. Aneurism is considered along with a description of Matas' operation.

One hundred and seventy pages are devoted to the surgery of the bones and joints. There is a very full consideration of fractures of the region of the elbow, six pages being given to this very important subject. Fracture of the upper end of the femur also receives more consideration than is usual in a single volume work.

The chapters covering the respiratory, abdominal and genito-urinary organs are very complete. The chapter on diseases of the female breast is especially complete. In it will be found a description of Willy Meyer's operation for the removal of the cancerous breast. Mention is made of the younger Senn's incision, but in the reviewer's opinion the incision and the resulting flap devised by J. N. Jackson (Jour. Am. Med. Assn., March 5, 1906) is much superior.

On the whole this work, in less than 1,300 pages, covers the entire field of general surgery in a satisfactory manner. The author has the happy faculty of expressing his ideas in singularly clear and concise manner, and since his book is confined strictly to general surgery he has been able to cover the subject thoroughly. One of the most helpful features of the book is the large amount of space devoted to the symptoms and diagnosis of surgical lesions.

HOWARD HILL.

SCHLEIF'S MATERIA MEDICA AND THERAPEUTICS. A Pocket Text-Book of Materia Medica, Therapeutics, Prescription Writing, Medical Latin and Medical Pharmacy. By William Schleif, Ph. G., M. D., University of Pennsylvania, Philadelphia. New (3d) edition, 12mo. 470 pages. Cloth, $2.50 net. Lea Brothers & Co., Philadelphia and New York, 1907.

Under this pretentious title Dr. Schleif gives us a very excellent little book, far better and more complete than the majority of this class of works. Usually it is a better investment to spend four or five dollars for a full-fledged Materia Medica, than a dollar and a half on a fledgling. The frills with which this little work is adorned, such as brief paragraphs or a couple of pages on heat, light, massage, medical latin, etc., amount to nothing at all. When it comes to the actual Materia Medica the author shows himself to be a master of his subject, and, so far as is practicable within the narrow limits of his book, covers the ground admirably. He gives us the essentials which we need to know, stripped of all that is non-essential. He is quite conservative in his suggestions as to dosage. He has a positive opinion as to the medicinal effect and the value of the various drugs, which must be very comforting to the young practitioner who has perhaps been under the teachings of some therapeutic agnostic.

A therapeutic index of new remedies, some sixty in number, a table of doses of remedies most frequently administered and a very complete general index go to fill the measure of this excellent work.

E. W. S.

A TEXT-BOOK OF PATHOLOGY. By Alfred Stengel, M. D., Professor of Clinical Medicine in the University of Pennsylvania. Fifth Revised Edition. Octavo of 977 pages, with 399 text-illustrations, many in colors, and 7 full-page colored plates. Philadelphia and London: W. B. Saunders Company, 1906. Cloth, $5.00 net; Half Morocco, $6.00 net.

The character of the fifth edition of Stengel's text-book has remained the same. In comparing it with the preceding edition some changes in the chapters on general pathology and in the illustrations are noticeable. The appearance of this new edition is convincing evidence of the recognition this book has received in practically all medical colleges of the country.

HARE'S THERAPEUTICS. A Text-book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, Physician to the Jefferson Hospital, etc. New (12th) edition, enlarged and thoroughly revised to accord with the eighth decennial revision of the U. S. Pharmacopœia. In one octavo volume of 939 pages, with 114 engravings and four colored plates. Cloth, $4.00 net; leather, $5.00 net; half morocco, $5.50 net. Lea Brothers & Co., Philadelphia and New York, 1907.

That any medical text-book should reach its twelfth edition is of itself proof enough of its value and its popularity. In the case of the work under consideration this popularity is well deserved. While giving all the amount of the drugs themselves that is practically needed, the main object of the book is, as its name indicates, to teach the use of drugs as well as of other therapeutic measures in disease. In that part devoted to the use of drugs the author is especially strong; brief, positive and clear in his statements. This is by far the most valuable part of the book. The attempt in 270 pages of text to give the proper treatment for all the diseases to which flesh is heir must, of course, be something of a failure. For a reasonably full discussion of the various diseases of man the medical student and the practitioner must turn to general or special works on practice. We are told in the brief and modest preface, that a considerable number of the recent advances in therapeutic procedures have been introduced, as the value of citrate of sodium in the feeding of bottle-fed babies, the use of calcium lactate hypodermically and by the mouth in hæmophilia and urticaria, etc., etc. Of course all the newer drugs of recognized value are introduced to the reader and the work is generally brought up to date.

E. W. S.

METABOLISM AND PRACTICAL MEDICINE. By Carl von Noorden, Professor of the First Medical Clinic, University of Vienna. Anglo-American Issue under the editorship of I. Walker Hall, Professor of Pathology, University College, Bristol; etc., etc. Chicago, W. T. Keener & Co., 1907. Two volumes, $6.00 net, per vol.

An English edition of von Noorden's famous "Lehrbuch des Stoffwechsels" does not require any special introduction. The subject is covered in two volumes. The first is written by Adolf Magnus-Levy, of Berlin, and is entitled "The Physiology of Metabolism." The second volume on "The Pathology of Metabolism" is divided into eight chapters, contributed by the following well known authorities, besides the editor: Fr. Kraus, Ad. Schmidt, W. Weintraud. M. Mathes and H. Strauss.

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Committee on Tuberculosis.

Wm. Porter, Chairman; W. M. Bayliss, J. B. Norman, M. P. Overholser, Tinsley Brown.

COUNCILLOR DISTRICTS AND COUNTIES IN EACH DISTRICT.*

F. J. LUTZ, Chairman. E. J. GOODWIN, Secretary.

First District.—Councillor, C. L. Evans, Oregon. Counties: Holt, Atchison, Nodaway.
Second District.—Councillor, W. T. Elam, St. Joseph. Counties: Buchanan, Andrew.
Third District.—Councillor, W. E. McKinley, Denver. Counties: Harrison, Worth, Gentry, DeKalb.
Fourth District.—Councillor, C. R. Buren, Princeton. Counties: Grundy, Sullivan, Mercer, Putnam.
Fifth District.—Councillor, E. E. Parrish, Memphis. Counties: Clark, Scotland, Schuyler.
Sixth District.—Councillor, H. Jurgens, Edina. Counties: Adair, Knox, Lewis.
Seventh District.—Councillor, L. W. Dallas, Hunnewell. Counties: Shelby, Marion, Ralls.
Eighth District.—Councillor, W. B. Dorsett, St. Louis. Counties: Lincoln, St. Charles, St. Louis, Pike.
Ninth District.—Councillor, Woodson Moss, Columbia. Counties: Audrain, Boone, Howard, Callaway, Warren, *Montgomery.*
Tenth District.—Councillor, C. W. Reagan, Macon. Counties: Macon, Randolph, Monroe.
Eleventh District.—Councillor, J. D. Brummall, Salisbury. Counties: Chariton, Carroll, Livingston, Linn.
Twelfth District.—Councillor, E. H. Miller, Liberty. Counties: Platte, Clay, Ray, Clinton, Caldwell, Daviess.
Thirteenth District.—Councillor, N. P. Wood, Independence. County: Jackson.
Fourteenth District.—Councillor, C. T. Ryland, Lexington. Counties: Lafayette, Saline, Cooper.
Fifteenth District.—Councillor, M. P. Overholser, Harrisonville. Counties: Cass, Johnson.
Sixteenth District.—Councillor, J. R. Buchanan, Nevada. Counties: Bates, Vernon, Barton.
Seventeenth District.—Councillor, R. D. Haire, Clinton. Counties: Pettis, Henry, Benton, St. Clair, *Hickory.*
Eighteenth District.—Councillor, Frank DeVilbiss, Eugene. Counties: Miller, Moniteau, Morgan, Camden.
Nineteenth District.—Councillor, G. Ettmueller, Jefferson City. Counties: Cole, Osage, Maries, Gasconade.
Twentieth District.—Councillor, F. J. Lutz, St. Louis. Counties: Franklin, St. Louis City.
Twenty-first District.—Councillor, B. M. Hypes, St. Louis. Counties: Jefferson, Ste. Genevieve, Perry.
Twenty-second District.—Councillor, J. D. Porterfield, Jr., Cape Girardeau. Counties: Scott, Madison, Cape Girardeau, Mississippi, *Bollinger.*
Twenty-third District.—Councillor, D. R. Corbin, Bloomfield. Counties: Stoddard, Dunklin, Pemiscot, New Madrid.
Twenty-fourth District.—Councillor, J. J. Norwine, Poplar Bluff. Counties: Wayne, Butler, Ripley, Carter.
Twenty-fifth District.—Councillor, F. L. Keith, Flat River. Counties: Washington, Reynolds, Iron, St. Francois.
Twenty-sixth District.—Councillor, R. L. Johnson, Rolla. Counties: Crawford, Phelps, Pulaski, Laclede, Dent, *Dallas.*
Twenty-seventh District.—Councillor, H. C. Shuttee, West Plains. Counties: Howell, Shannon, *Ozark, Oregon, Texas, Wright, Douglas.*
Twenty-eighth District.—Councillor, T. A. Coffelt, Springfield. Counties: Greene, Lawrence, Barry, Stone, Christian, Webster, Polk, *Taney.*
Twenty-ninth District.—Councillor, A. R. Snyder, Joplin. Counties: McDonald, Newton, Jasper, Cedar, *Dade.*

**Counties in Italics are not organized.*

County Societies in Affiliation with the State Medical Association

County.	President	Address of President.	Secretary	Address of Secy.
Adair	E. C. Callison	Kirksville	E. C. Grim	Kirksville
Andrew	E. C. Bennett	Bolckow	C. O. Jeffries	Savannah
Atchison	W. G. Stafford	Tarkio	A. McMichael	Rockport.
Audrain	C. A. Rothwell	Mexico	E. S. Cave	Mexico.
Barry	Wm. M. West	Monett	D. L. Mitchell	Cassville
Barton	J. T. Warren	Lamar	G. D. Allee	Lamar.
Bates	U. G. Compton	Pleasant Gap	E. N. Chastain	Rich Hill.
Benton	G. S. Greeson	Lincoln	S. O. Davis	Warsaw.
Boone	J. E. Thornton	Columbia	W. A. Norris	Columbia.
Buchanan	O. G. Gleaves	St. Joseph	Chas. W. Fassett	St. Joseph.
Butler	C. F. Green	Poplar Bluff	J. W. Mott	Poplar Bluff.
Caldwell	W. T. Lindley	Hamilton	Tinsley Brown	Hamilton.
Callaway	G. F. Roots	Tebbetts	I. F. Harrison	Fulton.
Camden	G. M. Moore	Linn Creek	G. T. Myers	Macks Creek.
Cape Girardeau	H. L. Cunningham	Cape Girardeau	J. D. Porterfield, Jr.	Cape Girardeau.
Carroll	W. C. Baird	Bogard	R. F. Cook	Carrollton.
Carter-Shannon	Wm. Fulton	Winona	J. A. Chilton	Van Buren.
Cass	H. A. Brierly	Peculiar	W. F. Chaffin	Raymore.
Cedar	Kimball Hill	El Dorado Springs	J. W. Dawson	El Dorado Springs.
Chariton	Oliver McEwen	Shannondale	C. A. Jennings	Salisbury.
Christian	J. C. Young	Ozark	J. A. Roberson	Ozark.
Clark	H. W. Harris	Winchester	A. H. Teel	Kahoka.
Clay	L. J. Jones	Linden	F. H. Matthews	Liberty.
Clinton	John Sturgis	Perrin	E. A. Colley	Plattsburg.
Cole	C. P. Hough	Jefferson City	S. V. Bedford	Jefferson City.
Cooper	F. R. Smiley	Boonville	J. R. Lionberger	Boonville.
Crawford	W. A. Metcalf	Steelville	A. H. Horn	Steelville.
Daviess	W. L. Brosius	Gallatin	M. A. Smith	Gallatin.
DeKalb	H. P. Yeater	Maysville	R. A. Evans	Amity.
Dent	A. F. McMurtrey	Salem	J. C. Welch	Salem.
Dunklin	N. F. Kelley	Kennett	G. L. Johnson	Kennett.
Franklin	H. A. Booth	Pacific	A. C. Brown	Moselle.
Gasconade-Marie Osage	J. J. Ferrell	Owensville	J. W. Nieweg	Lois.
Gentry	G. W. Whiteley	Albany	J. N. Conrad	Albany.
Greene	J. R. Boyd	Springfield	J. L. Ormsbee	Springfield.
Grundy	N. E. Sutton	Trenton	D. W. Coon	Trenton.
Harrison	C. A. Mitchell	Blythedale	F. A. Broyles	Bethany.
Henry	B. B. Barr	Clinton	F. M. Douglass	Clinton.
Holt	C. L. Evans	Oregon	J. F. Chandler	Forest City.
Howard	N. E. Smith	Fayette	C. W. Watts	Fayette.
Howell	H. C. Shuttee	West Plains	A. H. Thornburgh	West Plains.
Iron	R. W. Gay	Ironton	Ira A. Marshall	Ironton.
Jackson	O. H. Dove	Kansas City	E. L. Stewart	Kansas City.
Jasper	M. C. Shelton	Joplin	R. M. James	Joplin.
Jefferson	J. W. Pickel	Crystal City	R. E. Donnell	DeSoto.
Johnson	L. J. Schofield	Warrensburg	E. H. Gilbert	Warrensburg.
Knox	L. S. Brown	Edina	Henry J. Jurgen	Edina.
Laclede	J. A. McComb	Lebanon	J. A. Pinckard	Lebanon.
Lafayette	P. S. Fulkerson	Lexington	C. T. Ryland	Lexington.
Lawrence-Stone	F. S. Stevenson	Aurora	C. A. Moore	Aurora
Lewis	J. C. Brown	Lewistown	Paul F. Cole	Steffenville.
Lincoln	S. R. McKay	Troy	Wm. P. Smith	Troy.
Linn	J. W. Mason	Brookfield	Foster Burke	Laclede.
Livingston	L. E. Tracy	Chillicothe	W. M. Girdner	Chillicothe.
McDonald	E. F. Doty	Anderson	M. L. Sellers	Anderson.
Macon	W. H. Miller	Macon	C. W. Reagan	Macon.
Madison	C. A. Anthony	Fredericktown	S. C. Slaughter	Fredericktown.
Marion	Richard Schmidt	Hannibal	H. L. Banks	Hannibal.
Mercer	H. P. Chesmore	Princeton	C. R. Buren	Princeton.
Miller	W. A. Von Gremp	Iberia	W. L. Allee	Eldon.
Mississippi	H. L. Reid	Charleston	R. K. Ogilvie	Charleston.
Moniteau	S. H. Redmon	Tipton	W. R. Patterson	Tipton.
Monroe	S. M. Brown	Monroe City	M. C. McMurry	Paris.
Morgan	P. G. Woods	Versailles	H. N. Lutman	Versailles.
New Madrid	Welton O'Bannon	New Madrid	C. W. Watson	New Madrid.
Newton	R. L. Will	Neosho	Horace Bowers	Neosho.
Nodaway	F. R. Anthony	Maryville	H. L. Sayler	Elmo.
Pemiscot	J. G. Luten	Caruthersville	John Johnson	Hayti.
Perry	T. M. Hudson	Perryville	F. M. Vessells	Perryville.
Pettis	S. G. Kelly	Sedalia	Guy Titsworth	Sedalia.
Phelps	W. H. Bruer	St. James	S. L. Baysinger	Rolla
Pike	J. W. Dreyfus	Louisiana	R. G. Hereford	Louisiana.
Platte	Spence Redman	Platte City	G. C. Coffey	Platte City.
Polk	J. E. Loafman	Bolivar	A. P. Mitchell	Bolivar.
Pulaski	W. L. Ragan	Richland	G. W. Orrick	Crocker.
Putnam	C. H. Carryer	Hartford	T. A. Townsend	Unionville.
Ralls	Fred Walter	Perry	T. J. Downing	New London.
Randolph	G. O. Cuppaidge	Moberly	W. M. Dickerson	Renick.
Ray	E. H. Musson	Norborne	H. S. Major	Hardin.
Reynolds	J. M. Lowrey	Centerville	T. W. Chilton	Corridon.
Ripley	S. A. Proctor	Doniphan	J. F. Redwine	Doniphan.
Saline	D. C. Gore	Marshall	D. F. Bell	Marshall.
St. Charles	J. R. Mudd	St. Charles	B. K. Stumberg	St. Charles.
St. Clair	W. Cline	Appleton City	D. B. Williams	Osceola.
St. Francois	J. L. Haw	Farmington	A. L. Evans	Bonne Terre.
Ste. Genevieve	C. Moore	St. Marys	R. W. Lanning	St. Genevieve
St. Louis	J. C. Morfit	Humboldt Bldg	Davis Forster	5249 Raymond.
St. Louis Co.	R. E. Guibor	Maplewood	R. D. Moore	Central.
Schuyler	J. T. Jones	Queen City	H. E. Gerwig	Downing.
Scotland	W. E. H. Bondurant	Memphis	A. E. Platter	Memphis.
Scott	T. F. Frazier	Commerce	W. S. Hutton	Fornfelt.
Shannon	Frank Hyde	Eminence	J. A. Chilton	Van Buren.
Shelby	J. D. Smith	Shelbina	A. M. Wood	Lentner.
Stoddard	T. B. Wingo	Dexter	Ed. Moore	Bloomfield.
Sullivan	J. C. Kessinger	Milan	J. S. Montgomery	Milan.
Vernon	W. T. Bohannan	Nevada	T. McLemore	Nevada.
Warren	W. J. Alexander	Marthasville	E. A. Fluesmeier	Wright City.
Washington	J. A. Eaton	Belgrade	W. S. Smith	Belgrade.
Wayne	J. P. Sebastain	Patterson	R. J. Owens	Mill Spring.
Webster	H. Highfill	Marshfield	Wm. R. Beatie	Rogersville.
Worth	Arch Long	Denver	J. K. Phipps	Grant City.